

# THE MEDICAL TIMES.

TUESDAY, AUGUST 15, 1871.

## ORIGINAL LECTURES.

### TWO CLINICAL LECTURES

#### ON PELVIC PERITONITIS.

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#### LECTURE II.

**G**ENTLEMEN: There are several important points in the clinical history of pelvic peritonitis to which I wish to call your attention this morning. The symptoms in the two cases which were presented to you at our last lecture, were sufficiently striking to attract the attention of even a superficial observer. Indeed, both women suffered severe pain, and, aside from the physical examination, there was enough to lead us to believe that they were the subjects of some form of pelvic inflammation. This, however, is by no means always true; and there is now under my care a patient whose history most strikingly illustrates the correctness of this statement. She is a young woman, who was delivered of her second child on the 16th of February last. She had a severe hemorrhage. The accoucheur in attendance twice introduced his hand into the uterus and attempted to scrape off pieces of what he supposed to be retained placenta. She afterwards had a little fever and some pain in the hypogastrium, but the symptoms were so slight that no treatment was instituted for them. She recovered slowly, and when she got out of bed her belly was as large as at the end of pregnancy. This was due to tympanitic distension; and upon examination a hard tumor was discovered occupying both the left iliac fossa and the left portion of the vaginal cul-de-sac; there were also uterine displacement and immobility. Pelvic inflammation is so likely to be latent that Dr. McClintock says\* it is as necessary to make daily examinations of the iliac fossæ of a lying-in woman as it is to feel her pulse. You should not forget this, as it may save you mortification and annoyance in your practice. According to Dr. Duncan,† pelvic peritonitis, or perimetritis, as he calls it, is more apt to be latent than pelvic cellulitis, or parametritis; and we have every reason to believe that this assertion is entirely correct. It is not only true of the puerperal variety of the disorder, but, as has before been hinted, the statement applies with still greater force to the non-puerperal form; for any one who has made numerous autopsies in a large hospital, such as this, must have been struck with the number and extent of the adhesions and other signs of pelvic peritonitis to be met with in the bodies of women who have never admitted that they were the subjects of any disease of the pelvic organs.

Speaking of the fever, it is well enough to remember that after the disease has progressed for several days, if it is to terminate favorably, this with the pain and tenderness diminishes rather suddenly.

In the history of the second or puerperal patient it is to be hoped that you noticed the very distinct and, I believe, very important fact that preceding the tenderness and pain in the iliac fossa there were uterine pain and tenderness, and that it was not until the second

day of the disease that there were any evidences that the inflammation had spread beyond that organ. In other words, the affection might be called metro-pelvic peritonitis, or, as some will erroneously have it, metro-peritonitis. The more I study these affections the more I become convinced that there is a relation between an inflamed condition of some of the uterine tissues and pelvic inflammation, whether it be cellular or peritoneal. The particular condition of the uterus which predisposes a woman to an attack of one of these diseases appears to be endometritis; and this is true not only in the puerperal but also in the non-puerperal state. More will be said upon this point in speaking of the etiology of the disorder, and at present I would only urge you—and that most earnestly—to be exceedingly cautious about making any irritating application to, or any rough examination of, the interior of the womb, if your patient has any inflammation of the lining membrane of the organ. By thus speaking, I do not desire to make you inactive, but I do most earnestly hope to save you from the bitter experience which I have had, and some of which I shall detail to you presently.

Our puerperal patient, as you notice, has this morning, more than two months after delivery, a large uterus, the upper margin of which is about midway between the symphysis pubis and the umbilicus. This is not necessarily the result of inflammation of that organ; but it seems that all the inflammatory diseases of the pelvis which occur immediately after labor may, and indeed are most likely to, interfere very materially with the normal changes which the uterus undergoes after delivery. Hence subinvolution of that organ nearly always accompanies or succeeds perimetritis or parametritis in lying-in patients. In a few instances I have noticed that there was considerable enlargement of the organ accompanying the uterine pain and tenderness which have preceded or attended puerperal pelvic peritonitis, or cellulitis. In several such cases the womb seemed to contain some foreign body, but an examination for coagula proved it to be empty. I have seen it so large that it seemed as if it held an entire placenta.

The same patient, during her second paroxysm, which occurred in the latter part of February, had two or three copious uterine hemorrhages. This is not a necessary symptom of pelvic peritonitis, but it sometimes, though in my experience rarely, occurs in the puerperal variety. M. Bernutz,‡ in his work upon this disease, says that when hemorrhage is present in a series of cases it *may* portend the occurrence of an epidemic of puerperal fever. Of the correctness of this assertion I can say nothing. It has not been a common symptom of the disease during the past winter; while the affection has been unusually frequent in the wards. In my own beds at this time there are four lying-in women suffering from the disorder.¶

In the discussion of the clinical histories of these patients, the terms hardness, induration, and tumor have been used with some laxity,—and, indeed, as being almost synonymous. This has been done intentionally, because it is exceedingly common to apply them in this loose manner, and because I hoped to thus impress you more strongly with the importance of the subject; for when you meet with cases of pelvic inflammation in future, it is probable that nothing about them will surprise and interest you more than the physical signs. Few things are more striking than the dis-

\* Clinical Memoirs on Diseases of Women, p. 91, N. Syd. Soc. ed., 1866.

† Scarcely a week after this lecture was delivered, puerperal fever became epidemic in the wards, necessitating the temporary removal of the patients.

covery of such a mass as exists in the pelvis of these women; but I warn you not to be misled here. Those apparent tumors do not indicate the existence of a new formation of any considerable size. Let me illustrate this statement by a case. Just after beginning the practice of my profession, I was called one morning to see a young prostitute who was suffering from a mild attack of gonorrhœa. A few days later, pelvic inflammation supervened, and, as I knew but little about these diseases at that time, no vaginal examination was made. A few days afterwards, however, such an examination was made, and, to my surprise, the left vaginal cul-de-sac was filled by what appeared to be a large tumor, which was hard, slightly rough on its surface, and the centre bulged somewhat downward into the cavity of the vagina. It felt when thus examined like a fibroid tumor as large as an orange, projecting from the left side of the fundus of the uterus, and connected with that organ by a short, narrow bend just out of reach. But by bimanual palpation the left side of the pelvis was found to contain no foreign body, and the apparent tumor proved to be—if the expression may be used—a sort of linear induration or hardening of the roof of the vagina. Precisely the same condition was present in the early stages of the disease in our puerperal patient, and it was only later, as you have heard it stated in the history, that the swelling and hardness were felt above the pelvic brim. Any one who has had but little experience in this affection must be much struck with the fact that by vaginal examination alone there is often every indication of the presence of a large pelvic tumor,—one that is slightly rough, and almost as firm as a uterine fibroid tumor, though usually a little more elastic. Pressure on the iliac fossa shows this to be more apparent than real, for by combined manipulation the mass proves to be a mere induration of the vaginal roof. In other words, the breadth of the swelling is out of all proportion to its thickness.

In the puerperal woman, after the third paroxysm, we were able to feel the induration above the superior strait, and by combined external and internal manipulation we could detect, in the vagina, the impulse transmitted from the hand pressing over the brim. Even this, apparently certain as it is, is not sure evidence that there is any very considerable inflammatory thickening, because these tumors are sometimes formed by adhesions between the surrounding viscera, and the degree of hardness which may attend these is very surprising.

The terminations of pelvic inflammations, whether cellulitic or peritonitic, puerperal or non-puerperal, are in resolution, in permanent indurations from false membranes with or without much uterine displacement, or in suppuration.

It is hardly probable that suppuration will occur in either of these patients. It will be more likely to supervene in the puerperal than in the non-puerperal. In the latter the inflammatory products will go on diminishing in size, and the uterus may regain considerable mobility, or it may remain firmly fixed for a long time. It is not uncommon for these inflammations to go on to suppuration, in which case the abscess may empty into the vagina, the rectum, the bladder, the uterus, or the general peritoneal cavity, or through the abdominal walls. I have never seen these abscesses break into the general peritoneal cavity; a termination which is nearly always fatal, and is much to be dreaded. Fortunately, however, it is exceedingly rare. Nature, ever wise and ever watchful of the interests of the human family, has so constituted man that nothing has been left undone to protect and preserve his life; and it seems that there was a special provision to protect the general peritoneum in inflammation of the pelvic portion of that membrane, for not only is it rare for the abscess

to burst into its cavity, if the disease have gone on to suppuration, but it is scarcely more common for the inflammation to extend beyond the pelvis and to involve the general peritoneum. It seems that after the disease has reached the ileo-pectineal line its progress is arrested in most cases, and if it does extend beyond this at all, its course is soon checked by adhesive inflammation of the peritoneum covering the viscera.

Nor have I ever seen a pelvic abscess break into the bladder; but I have met with examples of all the other varieties, and of some of them more than one. Rupture into the vagina has been the most frequent, and into the intestinal canal the next. Evacuation of these abscesses through the uterus must be very rare; but I saw it occur once in a puerpera. The purulent discharge was copious, and was followed by repeated and profuse uterine hemorrhages during the succeeding month.

From the cases which have come under my own care, it appears that it is most favorable for the pus to find an outlet through the vagina. If the opening occurs into the rectum, the pus in the gut is exceedingly likely to give rise to violent tenesmus and diarrhoea. In other cases, however, in which the abscess opens into the alimentary canal high up, as into the small intestine, these symptoms are absent, and, moreover, the pus is never visible in the discharges. It may be asked whether this is not a more frequent occurrence than physicians generally believe.

You will remember that when speaking of the probabilities of suppuration in the two cases which we have made the basis of these lectures, it was stated that an abscess would be more likely to occur in the puerperal than in the non-puerperal patient. This opinion is based upon the absence of any signs of suppuration, and the indolent condition of the pelvic swelling, in the latter woman, as well as upon the known fact that suppuration of pelvic inflammations is much more frequent in puerperal than in non-puerperal women. If I may hazard an estimate from my recollection of cases which I have seen, I should say that four or five times as many of the former as of the latter end in abscess.

You should remember, however, that the detection of pus in these abscesses is exceedingly difficult, unless it is approaching the abdominal walls. It is no easy matter to positively assure oneself that a given pelvic tumor contains purulent matter, even if the examination be made immediately before it opens into the vagina.

One of the most important subjects which is to be considered in connection with pelvic inflammations, is their etiology. It is to be hoped that you have not forgotten the fact that our non-puerperal patient is a prostitute, and that when she entered this hospital it was in order to be treated for chancres and gonorrhœa. You are not to think that this is an unimportant point in the clinical history, for such is not the truth. Blenorragia is one of the most frequent causes of pelvic peritonitis, and the disease is a very common one among prostitutes. Bernutz\* has called attention to this fact, and out of ninety-nine patients under his care, with pelvic peritonitis, it had its origin in blenorragia in twenty-eight instances.

On the other hand, the association of the disease with the puerperal state is also an important clinical fact. This, too, is a very fertile cause of pelvic inflammation in women, for forty-three of Bernutz's ninety-nine patients were lying-in at the time the disorder occurred. On comparing an equal number of cases of each, it will be found that the affection is more frequent after abortions than after labor at full term, though this does

\* Clinical Memoirs on Diseases of Women, p. 41, New Sydenham Society's edition, 1866.

not appear as a matter of course in the ordinary statistics of the disease, as normal labors are so much more frequent than miscarriages.

In our puerperal patient you remember that the pain and tenderness in the right iliac fossa were preceded by enlargement, pain, and tenderness of the uterus. This fact was emphasized in reading the clinical history. Let me dwell upon it now; for I believe it to be a very important point in elucidating the causation of the affection. Non-puerperal women who are suffering with an inflammatory disease of the uterus, and especially with endometritis, are peculiarly liable to pelvic peritonitis and cellulitis, and it is in these cases that you are to be particularly wary of irritating applications to the os or the lining membrane of the cervix or cavity of the uterus. Allow me to illustrate this statement. A few years ago I was called to see a young girl who was suffering with an enlarged congested uterus, the os of which was slightly eroded. I touched it lightly with a solid stick of nitrate of silver. This was done early in the day, and during the succeeding night pelvic pain and tenderness with fever set in, followed by the formation of a tumor, and displacement with fixation of the uterus. She was confined to bed for several weeks, but finally recovered without suppuration.

A young woman in this hospital had a distinct ulcer on the vagina, just at its junction with the posterior lip of the cervix. It was freely touched with nitrate of silver. Thirty-six hours later she had pelvic peritonitis, from which she died two days afterwards.

In the same ward, and in the next bed but one, on the same day, was a woman with an intensely congested uterus and a much eroded cervix. The sound showed that the organ was enlarged, and its lining membrane was manifestly inflamed. The quantity of blood in the uterus was so great, and the superficial vessels of the portion visible through the speculum were so much distended, that I directed Dr. Bottsford, at that time my resident, to make six punctures, three on the anterior and three on the posterior lip of the cervix. The bleeding was free, but the operation was followed by a violent attack of pelvic inflammation, which went on to suppuration, and the abscess finally broke into the rectum. This occurred nearly three years ago; and a month since the same patient was readmitted to this hospital with the abscess still discharging at intervals through the rectum. I could relate other equally striking examples, but these are sufficient. The death of the former and the permanent ill health of the latter of these patients are enough, if there were no other reasons, to cause me to urge you to be exceedingly careful how you make any irritating application to the os and lining membrane of the cervix and cavity of the uterus, if the patient is suffering from endometritis.

This applies not only to the use of such agents as nitrate of silver and local depletion, but with equal if not greater force to the use of sponge tents, intra-uterine injections, and even of the uterine sound. I have in one instance seen death follow the introduction of sponge tents, and serious symptoms have several times resulted from their use in my patients, notwithstanding the adoption of every precaution.

The relation of endometritis to these diseases is too important for you to forget. The connection in non-puerperal patients is clearly demonstrated; and it is my conviction from the symptoms in A. W—, as well as in other cases which have occurred in the wards during the last year, that the association between inflammation of the uterine lining membrane and the puerperal variety of the disease is just as close. This leads us to the consideration of the causes of endometritis in the lying-in woman. It is to be feared that the disorder and its sequel, if our opinion is correct, are

sometimes the direct consequence of officiousness upon the part of the young and inexperienced accoucheur. The prominence given by some obstetric teachers to the necessity of knowing that the uterus is perfectly empty after delivery, and especially that it contains no clots, induces many to pass the hand or the fingers into the cavity of the organ, the one before and the other after the delivery of the placenta. Many physicians, too, do not allow the third stage of labor to proceed naturally, and some employ considerable force in delivering the placenta. The truth of this assertion is proved by the very frequent statements of young men that they have met with examples of "adherent placenta." It has been my fortune to be brought in contact with many gentlemen just entering upon the practice of their profession, and so important has been the influence of this teaching, that I hardly remember one who was at all satisfied without scraping out the uterus to remove coagula and fragments of the placenta and membranes. I have seen many cases of pelvic inflammation, and some of them, it is to be feared, had their origin in irritation of the uterus during and at the end of the third stage of labor. It was only after several years' experience that I was induced to abandon the same erroneous practice. Now it is with the utmost hesitation that I attempt to pass the hand or fingers into the cavity of the uterus, and, as the abdominal walls are always lax and flabby immediately after delivery, the womb can be emptied in almost every instance by the simple supra-pubic manipulation recommended by Credé for the delivery of the placenta.

All cases of puerperal pelvic inflammation do not have their origin in mechanical irritation or injury of the internal surface of the uterus, however. It may be that in some instances, as is asserted of puerperal fever, it is the result of the direct inoculation of some matters morbi upon the uterine surface. Under certain circumstances the affection becomes epidemic, and then it undoubtedly has an atmospheric origin. In this class of cases, as well as in the others, the peritoneal inflammation is preceded by enlargement, tenderness, and pain in the uterus.

*Treatment.*—In the history of the puerperal woman, you remember that the disease was treated at its onset by counter-irritation with turpentine stapes, the administration of a sedative febrifuge, and the use of vaginal suppositories of belladonna. This is briefly the treatment which we have generally employed here in the first stage of the disease. If the progress of the affection is arrested at all, it is to be done by early and prompt treatment. I am inclined to believe that it would have been better had we leached this woman (A. W—) early in the disease,—that is, before or immediately after the time when the pain and tenderness ceased to be confined to the uterus. A few ounces of blood taken then, in connection with the other treatment employed, might have arrested the inflammation and prevented the monthly relapses, of which you have heard the account. I have frequently used local depletion in the treatment of pelvic peritonitis, and originally applied the leeches over the hypogastrium or the iliac fossa, but latterly I have applied them around the anus. This is the better practice, for in the former instance the attempt is made to deplete the uterus and pelvic peritoneum through the thick and muscular abdominal wall. Between these structures there is no direct connection; while the vessels of the uterus and adjoining parts communicate with the hemorrhoidal veins, and you more directly deplete the parts involved in the inflammatory process by placing the leeches near the anus. Do not hesitate to employ leeches if you have to treat a strong and previously healthy patient. Sensitive and modest women will object to their application in this position, but, if properly performed, the pro-

cedure involves no more exposure than if they are placed above the pubis.

The use of turpentine as a counter-irritant is very common in this hospital, and when applied to this woman it was preferable to blistering, which is always inadmissible in the early stage of the disease. The most that you should do at this period is to use mild counter-irritants followed by poultices.

The fever mixture prescribed consisted of syrup of ipecacuanha, with ordinary neutral mixture, and spirits of nitric ether. The important agent was the ipecacuanha,—a drachm of the syrup of which was administered every three hours, with the intention to produce and maintain nausea for a little time. The treatment had no manifest influence upon the course of the disease; but I think that I have seen cases in which it has arrested the inflammation. If the patient be very stout and plethoric, and is first seen before the affection has lasted twenty-four hours, I should not hesitate to employ a stronger sedative,—tartarized antimony. One or two large nauseating doses of this should be given, in order to produce a quick and profound impression, which should not be maintained for any long period. What you desire is to produce very decided nausea without vomiting, but with profuse perspiration and diminution in the frequency and force of the pulse.

If this is not effected early, I have never seen any good follow the use of these depressing febrifuges, but, on the contrary, they are positively injurious, by weakening the patient and by diminishing her power to resist the tendency to suppuration. Hence, if the patient is not seen early, or if the remedies alluded to, do not have the desired effect at once, you had better abandon them, and be content with the employment of milder measures,—simply to relieve the woman's pain, and to support her strength for that period when her comfort will be sacrificed and her life, it may be, endangered by suppuration.

In the first or active stage of the disease the relief of pain is a matter of no small importance. Our present patient, as you have heard, used vaginal suppositories of belladonna. I have for several years been in the habit of prescribing this drug when the patient is suffering severe pelvic pain, whether it be acute or chronic. In some cases the remedy appears to act most happily. In others it fails. It seems to be preferable to administer it in the manner specified, because there is often vomiting, and because the application is made almost directly to the diseased part. From two to four grains of the extract may be thus used once or twice daily. That the remedy is active when administered in this way is proved by the fact that dilatation of the pupil, and the other constitutional symptoms of the drug, sometimes quickly manifest themselves.

If the belladonna fails to relieve pain, you will have to resort to opium or its preparations, which may be administered either by the mouth, the rectum, or the vagina, or by hypodermic injection. I confess to having a preference for the third and fourth methods.

There is always a question in regard to the propriety of administering a dose of purgative medicine to these patients. If there is any reason to believe that the bowels are loaded, it is well enough—nay, it is right—that they should be emptied by a cathartic or an enema; but there is no indication for anything more than this. Drastic purgatives are to be avoided in all stages of the disease. All that you have to do with the bowels is to prevent an accumulation of hardened faeces, and, aside from this, all interference with these organs is not only useless, but positively injurious. In many cases, owing to the close proximity of the inflammation to the rectum, and the intimate sympathy existing between all the pelvic organs, the irritability of the bowel may be so great as to demand treatment.

Or, if this symptom is absent, you will find it no difficult matter to produce it by the improper administration of cathartics, while by the same means you may increase or maintain a waning pelvic inflammation or decide the course of the disorder as regards resolution or suppuration. These remarks apply to the use of purgative medicines during the whole course of an attack of either perimetritis or parametritis.

As pelvic peritonitis progresses, however, there sooner or later comes a time—generally from the fifth to the ninth day—when the fever remits and the pain diminishes with greater or less suddenness. New principles are now to guide you in your treatment. It is now your object to prevent suppuration and diminish the severity of the monthly exacerbations which are so apt to occur. At this time all depressing local or general remedies are to be abandoned. It is now, if at all, that a blister will be useful, and it sometimes seems as if the application of one is rapidly followed by complete cessation of the remaining pain and a rapid diminution of the inflammatory induration. The production of strangury is the only danger from its use, and it is said that it is not infrequent. I have never met with it in these cases, but it is easy to believe that it would be likely to occur in certain instances, for difficulty and pain in passing water are among the symptoms of the disease. It is probably better to limit the use of the remedy to those cases in which these are absent.

If you deem it inadvisable to employ cantharides, you should at least freely paint the hypogastric and iliac regions with tincture of iodine, or this agent may be employed after the blister has healed. In some instances I have used mercurial ointment locally. I do not know that any good has followed its application. In other cases I have prescribed an ointment of the biniodide of mercury, ten or fifteen grains to the ounce. This has the merit of being a counter-irritant of some power, while it may possess some of the so-much-lauded sorbafacient properties of mercury. Moreover, it rarely produces salivation, which may follow the application of the ordinary blue ointment.

Something may be done in the way of local treatment through the vagina. After Tilt,\* I have sometimes employed suppositories of the ointment of mercury in connection with belladonna. It is better, however, to use other drugs. The one most frequently prescribed by some is the iodide of lead in the form of suppositories. I have never felt confident that the agent was useful when employed in this manner; but it can do no harm, and it would, therefore, probably be well for you not to neglect it.

As internal remedies, both of these women have been taking the syrup of the iodide of iron and the iodide of potassium. For a long time I have treated my patients with pelvic inflammation, after the subsidence of the acute symptoms, by giving them from ten to fifteen minimis of the one, and the same number of grains of the other, three times daily. The iron is less constantly given than the iodide of potassium. What is the precise value of the latter remedy I shall not pretend to say; but I believe that it is very useful in these cases, and that it facilitates the absorption of the inflammatory products and thus tends to prevent suppuration, which is the great point in the treatment of all cases of pelvic inflammation, be they peritoneal or cellular.

You should not forget that, after the very first stage of the disease, no depressing remedy is to be prescribed, and that after the acute symptoms have subsided the patient is to be supported rather than exhausted. No principle is now more strongly insisted upon than that suppuration is increased, or a tendency to it made stronger, by debilitating the patient. Hence, by the

\* Uterine and Ovarian Inflammation. London.

administration of good food, and, if the depression is at all considerable, by the use of wine, in addition to the other remedies already alluded to, you are to prevent suppuration.

There is no more important element than rest in the treatment of these pelvic inflammations. I have most strongly insisted upon this in both patients presented to you, and the puerperal woman has persistently disobeyed my directions. This is no uncommon occurrence; and you have heard in the clinical history that she suffered severe pain after any unusual exertion. Women will constantly insist upon being up when your better judgment will inform you that they should be perfectly quiet, and you will hereafter often have the mortification to find your best efforts at treatment frustrated by the wilfulness of your patients. Remember, however, that you cannot insist too strongly upon the importance of rest in these disorders, and of absolute quiescence of the genital organs for a considerable period after an apparently perfect recovery.

In conclusion, I have but one word more to say. For a long time after the patient seems to have recovered from either perimetritic or parametric inflammation, no matter whether it is puerperal or non-puerperal, you should be exceedingly careful how you treat any form of uterine disease from which the woman may be suffering; for one who has had either of these affections is for a considerable period very susceptible to any irritation of the genital organs, and exceedingly liable to fresh attacks of pelvic inflammation. At this very moment there is a patient in the ward who, after the birth of her last child, six years ago, had a pelvic abscess which discharged through the vagina. For the treatment of a uterine disease from which she is now suffering, sponge tents were introduced; and their use was upon two successive occasions followed by mild attacks of pelvic peritonitis.

## ORIGINAL COMMUNICATIONS.

### THE ORIGIN OF FIBRIN.

A THESIS FOR THE DEGREE OF DOCTOR OF MEDICINE  
IN THE UNIVERSITY OF PENNSYLVANIA.

BY LOUIS S. STILLE, M.D.

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THE growth of physiological science may be compared to the formation of stalactites in limestone caverns. For ages, facts, diluted with theory, have percolated the Temple of Human Experience, depositing therein the amount of truth they contained, which by gradual accretion has reached an enormous bulk, while the ideas and opinions, at first necessary to enable the mind of man to digest the solid material, have entirely vanished. The progress of physiology has been so rapid during the past few years, and the accumulation of facts become so great, that some modification of the existing theories may naturally be expected, particularly of those relating to the blood and the uses of its various constituents. We have therefore selected for discussion this interesting and important subject, which is the basis of what are commonly known as the antiphlogistic doctrines, and has perplexed practitioners for many years. Fibrin has long been looked upon either as the chief element of nutrition, or as an effete material, destined to be excreted from the body. The most bitter controversies have arisen between the parties holding these opposite views, neither one venturing to assert that, after all, the very existence

of such a substance as fibrin may require to be proved. Quite recently, however, several eminent microscopists and chemists, who have investigated the subject, have reached a most startling and unexpected result, which destroys at one blow the most cherished doctrines of hyperinosis and hypnosis, and proves anew that the "post hoc propter hoc" method of reasoning is not to be depended upon in therapeutics. In order to understand the present view, it becomes necessary, first, to determine what fibrin is; then, to consider its existence or non-existence in the blood; and, finally, to seek the most plausible theory of its origin.

What is fibrin? When healthy blood is withdrawn from a living animal, it presents the appearance of a homogeneous red liquid, but if allowed to remain at rest and at the temperature of 90° F., it soon undergoes a change, by which it is converted into a semi-solid mass closely resembling currant jelly. This change, known as spontaneous coagulation, has been shown by various observers to consist in the development of a network of minute fibres throughout the liquid, and these fibres are therefore spoken of collectively as fibrin.

Does fibrin exist in the blood? It is evident that a substance which has been obtained from a liquid can only pre-exist in that liquid under one of three forms, —solid, liquid, or gaseous,—and that fibres can be present only as fibres, or as minute molecules having a tendency towards aggregation in straight lines. Filaments of fibrin are very minute, and therefore, it may be objected, are not easily seen under the microscope unless aggregated, and may be supposed to exist like filaments of horsehair in syrup; but, unfortunately for the correctness of this supposition, single fibres of fibrin can be seen under the microscope and the process of fibrillation watched. Thus, Lehmann says, "There appear here and there individual points or molecular granules, from out of which very soon extremely fine straight threads spring;"\* and Addison, "Exceedingly delicate and perfectly cylindrical fibres, having a diameter even less than that of the molecules, first appear crossing the field of the microscope;"† whence it is evident that fibrin is formed with its recognized physical properties only in the act of coagulation. In the filtration of blood, moreover, there is no separation of fibrin previous to coagulation, whereas if fibrinous filaments existed in suspension, they should remain upon the filter irrespective of such change. The hypothesis that fibrin exists in the form of molecules (independently of the corpuscles) is disproved by the experiments of Mr. Lister,‡ who found that when the corpuscles are removed from the blood it is absolutely incapable of coagulation. By molecules of fibrin we here signify particles of the same composition with fibrin, and not the primary molecules of Gulliver, or the bioplasm of Beale, which will be hereafter considered. There now remains only one condition in which fibrin may exist in the blood,—that of a liquid, since the supposition of a gaseous state is absurd. A liquid can become solid (in all human experience) only by evaporation or crystallization, and these have been shown not to be requisite in the formation of fibrin. Evaporation may be prevented by covering the blood with oil, by enclosing it in a mercurial vacuum, or by ligature of a vein, and yet coagulation will take place. The resemblance of fibrillation to crystallization is more apparent than real, since the conditions for the development of the one are totally different from those required by the other. Cold and rest together prevent the production of fibrin, while they accelerate the formation of crystals. Agitation hastens coagulation, while it retards crystallization; the one

\* Jones and Sieveking's Pathological Anatomy, p. 29.

† Transactions Provincial Med. and Surg. Association, vol. xi. p. 241.

‡ Lancet, 1863, p. 140, et alio.

forms crystals of an indefinite size, which may be redissolved by heat, while fibrinous filaments are of a definite size, and cannot be redissolved by heat. If we add to these the statement of Virchow, that venous obstruction will cause exudations of all the admitted fluids of the blood except fibrin, and the notorious fact that pure liquid fibrin has never been isolated, the conclusion seems to be perfectly justifiable that fibrin, as such, does not exist in the blood.

If it is not found as fibrin in the blood, and yet is formed by the components of that liquid, the question arises, What are these component parts, or rather proximate principles, of the blood, and what relation do they each bear to fibrin? It suffices for our present consideration of this subject to regard the blood as being composed of albumen, salines, red and white corpuscles, and water. Of these, water, salines, and red corpuscles may be excluded, as none of them form fibrin by themselves, or when in combination, and the latter (corpuscles) may be filtered away from blood without hindering coagulation. Albumen, however, is a substance which, universally distributed through animated nature, forms the material from which all living structures are derived, and, therefore, must be looked upon as the essential origin of fibrin, as of all organic tissues. Containing the four elements of organic nature in large proportions, it would seem to be the fittest representative of the universal pabulum, or food, as distinguished from the bioplasm, or living organism which feeds upon it. Its distinguishing characters to the physiologist are coagulation in white flakes by heat or nitric acid, and liquidity at the temperature of the body. That fibrin is formed from albumen can be demonstrated by the following facts: "The chyle contains more albumen and less fibrin than the blood; consequently a part of the albumen must have been converted into fibrin. The chyle, immediately after being absorbed by the lacteals from the intestines, contains more albumen and less fibrin than that which has passed through the mesenteric glands. The arterial blood contains more fibrin and less albumen than the blood in the veins, and this can only result from the transformation of the latter material into the former."<sup>\*</sup> Prof. Brücke, after a large number of careful analyses of the blood of animals, remarks that "we have no further inducement to suppose that there exists in the blood-plasma a peculiar substance,—so-called fluid fibrin,—but are now compelled to admit that solid fibrin is formed at the expense of a part of the albumen dissolved in the plasma."<sup>†</sup>

The language which is here employed is noteworthy. A part of the albumen alone is changed into fibrin; why not all of it? What peculiar influence resides in this changeable portion which is capable of altering its physical condition? To ascertain this point, and led by several observations on the chemical nature of fibrin, Mr. A. H. Smee discovered that a current of oxygen gas, being passed through various albuminous fluids, gave rise to a substance apparently identical with fibrin, both physically and chemically.<sup>‡</sup> This fact, however, though explaining how albumen may be converted into fibrin by the oxygen in the blood derived from the lungs, does not answer so well in its application to the fibrin of chyle and lymph, which are formed, the one from food, the other by a retrograde metamorphosis of tissue. It is true that the fibrin in these liquids is imperfectly formed, but the knowledge of its existence in these situations is sufficient to argue that oxygen is not the only factor. Besides this objection, there is the present theory of the non-existence of free oxygen in

the blood as distinct from the red corpuscles; and, since these are not requisite to coagulation, the inference likewise is that oxygen is not essential.

Let us suppose, however, that the white corpuscles are oxidized albumen (which is merely a supposition, since they have not been analyzed), and trace the connection between them and fibrin. If it can be proved that these corpuscles bear a constant relation to fibrin, that the two increase and decrease simultaneously, that the presence of the one invariably coincides with that of the other, and that the corpuscle has been seen in the act of converting itself into filaments, it would seem almost certain that fibrin is only another name for the white corpuscle. And this is precisely the character of evidence which we are able to offer in this case. Premising that the primary molecule of Gulliver, the protoplasm of Max Schultze, and the bioplasm of Beale are all different names for the white-, chyle-, and lymph-corpuscle, we will present the evidence as briefly as our space will allow.

The first situation in which fibrin is found and in which it did not previously exist is in the central lacteal vessels of the intestinal villi (Gulliver)<sup>§</sup> during the absorption of chyme. Drs. Carpenter<sup>||</sup> and Kölliker<sup>¶</sup> demonstrate the presence of white cells in this chyle. In the mesenteric glands, fibrin and corpuscles suddenly increase in amount. Recklinghausen<sup>\*\*</sup> observes that the follicular substance of these glands is probably to be regarded as the chief formative centre of the cells, while Salisbury<sup>††</sup> describes the formation of such corpuscles in the follicles. From the commencement of a villus, then, to the termination of the lacteals in the thoracic duct, fibrin and corpuscles steadily increase together, until they are poured into the general circulation. The same may be said of the contents of the lymphatic vessels, though the origin of the lymph is purely conjectural. The only physiological increase of fibrin in the blood occurs during digestion and pregnancy, both of which conditions are also distinguished by an increase of white cells (Becquerel and Rodier; Virchow).

In certain diseases a notable increase of fibrin occurs, and Virchow assures us that such increase is always accompanied by a similar one of the colorless corpuscles.<sup>††</sup> The absence of fibrin has been observed in cases of toxæmia from various causes, such as poisoning by hydrocyanic acid, etc., typhus, purpura, scorbutus, and advanced tuberculosis. Unfortunately, however, the normal proportion of white corpuscles in the blood is so small that no satisfactory evidence can well be given of their decrease.

The so-called inflammatory lymph has been shown by Paget to bear a close relation to the blood as regards the quality of fibrin formed by the two liquids. As the clot of blood drawn from the arm of a patient suffering with pericardial effusion is firm or loose in texture, so may the false membranes be expected to vary in consistency. Addison,<sup>|||</sup> Beale,<sup>|||</sup> and Chalvet<sup>¶¶</sup> have demonstrated the presence of colorless corpuscles in these plastic exudations; while the recent investigations in Germany by Cohnheim, confirmed by Woodward and others in the United States, supply the missing link in the chain of evidence, by proving the plastic corpuscles to be identical with the white cells of the blood. It would thus appear that fibrin is always associated with

<sup>\*</sup> Times and Gazette, 1863, vol. ii. p. 553.

<sup>||</sup> Physiology, London, 1842, p. 460.

<sup>|||</sup> Stricker's Histology, Syd. Soc. ed., vol. i. p. 342.

<sup>¶</sup> Stricker's Histology, loc. cit.

<sup>¶¶</sup> Amer. Jour. Med. Sci., April, 1866.

<sup>††</sup> Cellular Pathology, p. 199.

<sup>††</sup> Experimental Researches, London, 1843.

<sup>††</sup> Archives of Medicine, London, 1861, pp. 251-2.

<sup>††</sup> Thèse de la Physiologie pathologique de l'Inflammation, Paris, 1860.

p. 38.

\* Rudolf Haas, London Journal of Medicine, vol. ii. p. 648.

† British and Foreign Medico-Chirurgical Review, vol. xix. p. 208.

‡ Proceedings of Royal Society, vol. xii. pp. 399 and 505.

the colorless corpuscles in the chyle, lymph, blood, and plastic exudations; and, since it has been previously ascertained that fibrin does not exist in the blood apart from these cells, the inference must be either that the corpuscles constitute fibrin, or that they unite with some element of the serum in order to produce it. In both cases their presence is absolutely necessary to coagulation. If the hypothesis that the white corpuscle is composed of oxidized albumen be accepted, the only difficulty would consist in understanding how spherical aggregations of molecules can become linear in form. Barry, Beale, and Salisbury tell us that they do so change their shape, and Prof. Kirkes says that the white corpuscles cannot by any mode of analysis yet invented be separated from the fibrin of mammalian blood. This statement is manifestly correct if the corpuscles are fibrin: and at this point some reference must be made to the faulty method of analysis which has been used. A specimen of fresh blood is examined by the microscope, in order to determine the number or amount of corpuscles. In order to determine the amount of fibrin, the microscope is not used, but the blood is whipped, or allowed to coagulate, and the amount of fibrin calculated by scales and weights. How can it be asserted that the corpuscles have not been weighed under another form and called by the name of fibrin? The reply is quickly given: by defibrinating a specimen of blood and examining the serum for corpuscles. Let Andral\* give the result of his observations upon this subject: "When we in any way deprive the blood of all its fibrin, we no longer find white corpuscles in the field of the microscope;" and again, "The whole of the fibrin is held in suspension in the blood under the form of white corpuscles, one-five-hundredth of a millimetre in diameter."

This conclusion has also been reached by Barry, Beale, Horn,† Addison, Salisbury, and Mantegazza,‡ independently of one another, and the theory has been propounded that pus-cells are merely white corpuscles which have lost the property of assuming a filamentous condition, and consequently retain the spherical appearance. The discussion of this view need not at present occupy our attention, especially since the most important part of the subject yet requires consideration.

It has been shown that the presence of white corpuscles is indispensable to the production of fibrin, and that the probabilities are very strong in favor of considering them as one and the same substance,—viz., oxidized albumen; but a careful analysis of the proofs advanced must still be made. The experiments of Alexander Buchanan, in 1836, on the admixture of serous fluids, and the more recent experiments of Schmidt upon the same subject, render it probable that although no fibrin may be formed, as a physiological process, distinct from corpuscles, these bodies may nevertheless represent only one of the factors in its production. A substance has been found in blood-serum which is apparently as essential to coagulation as the white corpuscles. This material Kühne has named paraglobulin. If extracted from freshly-drawn blood, no coagulation occurs in that liquid until it is replaced. If added to hydrocele fluid, which at best forms only a small coagulum, instantaneous fibrillation is the consequence. From such well-attested facts there is no escape, and, therefore, the previous conclusions must be modified; and, instead of saying that the corpuscles are fibrin, we now assert that they make fibrin. For the corpuscles are organisms, and when an organized body acts upon an unorganized one, and a third body is produced, the active

part is always ascribed to the former. There is yet a wide field open for research in tracing the origin of the paraglobulin.

To recapitulate. Fibrin does not exist as such in the blood, but is a product of the action of the white corpuscles upon a material named paraglobulin, existing in the serum.

"Its appearance, its coagulation, are signs of its formation."—Robin.

#### MEDICAL NOTES.

##### No. IV.

BY JAMES E. REEVES, M.D.,

Wheeling, W. Va.

##### VI.—ENTERIC OR TYPHOID FEVER.

FOR more than twenty years I have studied this disease attentively, as it occurs in West Virginia, and know certainly that it frequently springs up in the same or in different localities without assignable cause, and in the midst, seemingly, of the most diverse sanitary surroundings. Imperfect ventilation and overcrowding, with its accumulated filth, drinking-water contaminated with sewage, fermentation and decomposition of fecal exuvia, the opening of sewers, cesspools, etc., may have much influence in its production and spread; but, in the language of Dr. Guy, are not these sources of pollution more often the *nurse* than the *parent*?

The history of enteric fever in West Virginia has shown satisfactorily to my mind that the disease is not confined to those localities which year after year are most filthy because of defective sewage, sluggish streams, and the carrying on of offensive trades and manufactures. On the contrary, if any difference has been observed, these so-called unhealthy, *fever-producing* localities—for example, the neighborhood of slaughter-houses, soap and tallow-candle factories, etc.—seem often to be protected above the measure of exemption common to the best and most delightfully-situated neighborhoods, both in cities and in the country. At least, I am quite sure that the dens of filth and sources of the foulest emanations in the city of Wheeling are not, as a rule, the localities which are most frequently visited and scourged by the disease. Indeed, the truth seems to be this: it more frequently passes by the denizens of the lanes and alleys, including also those residing in the vicinity of the outlets of sewers along the banks of Wheeling Creek and the Ohio, and attacks those in comfortable life,—the families of merchants and thrifty tradesmen residing in the most beautiful neighborhoods. It exhibits, also, a marked tendency to strike down the young, recent residents of a locality, as well as those who live on elevated grounds, and to prevail with greatest frequency and fatality during the fall, winter, and spring months.

Now and then the *causative* influence may seem such as to favor the doctrine taught by Dr. Murchison,—that apostolic light of *pythogenesis*,—who, by his reasoning concerning the origin of the Croydon, Windsor, and Westminster epidemics, the Clapham school case, etc., has, according to Dr. Aitken, "rashly committed science to an hypothesis of a doubtful nature;" but the facts, easily deduced in the main from the every-day history of the disease as it occurs all over this country, do not support his dogma.

Exactly as scarlet fever, measles, chicken-pox, whooping-cough, diphtheria, etc., come around in uncertain cycles and break out spontaneously,—i.e. without the least trace of association with antecedent cases—in cities, towns, villages, schools, work-houses, country places and settlements, including farm-houses of all

\* Pathological Haematology, translated by Meigs and Stillé, 1844, pp. 34 and 35.

† Ranking's Abstract, 1848.

‡ Nature, vol. i.

descriptions, built upon the hill-tops, in the valleys, on the mountain-side, along creeks and rivers, and far off from the pernicious influences of decaying vegetable and animal matter, stagnant pools, drains and filthy sewers, so does enteric fever often appear; and in its mode of access and succession of symptoms, it so closely resembles the family of eruptive fevers that it might with much propriety, I think, be classed among the *exanthemata*. The presence of the eruption is almost as uniform as that of scarlet fever. If diarrhoea is profuse and persistent, the eruption is sparse and soon fades; and when the disease is fully developed, it runs its given course. There is also a similarity of attraction or elective affinity of the morbid poison for certain eliminating surfaces, the choice of which as distinctively marks the specific or independent character of the disease. In scarlet fever the tonsils are the normal excreting surfaces, and a well-known form of *angina* results; in diphtheria there is another and certainly very different blood-poison, having a like affinity for the same parts of the throat; but the nature of the local morbid action in diphtheria is wholly unlike that which occurs in scarlet fever; and so far from being *antagonistic* poisons, or protective one against the other, they may co-exist,—a fact which I have several times witnessed. In like manner the specific poison of enteric fever has an elective affinity for the surface of the small intestine,—the Peyerian and mesenteric glands; and the lesions which are produced by the process of elimination in these, its normal excreting surfaces, are so constantly and precisely the same, that they stamp enteric fever as specifically distinct from any other febrile or local inflammatory affection, as scarlatina is different from diphtheria, or measles from smallpox.

Again, the poison of enteric fever is antagonistic of no other blood-poison; neither is it *protective* against any except its own recurrence in the bodies of those who have been once attacked; and the immunity thus conferred is as reliable as the safety from a second attack of scarlet fever, measles, or smallpox. To this fact my attention has been particularly directed, and in all my experience I never knew a patient to have the disease a second time.

That enteric fever is generally a contagious disease, sometimes *feebly*, at other times *actively* so, is a truth I can no more doubt than I can doubt the existence of the disease itself. I have said "generally contagious," because, as has already been shown, the disease is very frequently developed *de novo*,—a fact proved by its frequent appearance in isolated rural districts when after the strictest search it has been found utterly impossible to trace even the most remote connection with antecedent cases; but after such spontaneous production, it may become feebly or actively contagious, according to the quality of the predisposing cause and the fitness of the individual recipient for the action of the poison.

This question, however, of the *generatio de novo* of diseases which may afterwards propagate themselves by contagion is a most difficult and perplexing one; but it should be borne in mind that there are many truths in medicine which are not demonstrable, which are truths nevertheless. If we cannot explain how some persons escape the contagion of smallpox,—even cannot be made to receive it by inoculation,—how vaccination may fail to-day and prove successful two weeks hence,—what is the nature of the specific poisons of scarlet fever and diphtheria, and why their affinity for the tonsils,—why the poison of mumps should have an affinity for the *parotid gland*,—what is the nature of the poison of enteric fever, that it should have so marked an affinity for the elliptical plates of the ileum,—how these poisons respectively enter the blood, and by their *catalytic* action purge from it their own future possibility of recurrence,—if all these phenomena, which are *truths*

in spite of the mystery which envelops them, cannot be explained, is it less strange that we are unable to account satisfactorily for the spontaneous origin of disease and its subsequent spread by contagion, examples of which are constantly occurring?

#### *Treatment.*

Twenty or twenty-five years ago, general bloodletting and active mercurialization constituted the rule of practice in the management of this fever, and then death gathered an indiscriminate harvest. There is still great uniformity of practice among all well-informed and experienced practitioners, but, fortunately, in an opposite direction to the old plan, and with it the result that, while the disease has lost none of its former gravity and real danger, there is no other acute affection, perhaps, of like serious character, which, under proper management, more often terminates in recovery. A considerable experience in its treatment has led me to regard no case, however mild it may appear, as free from danger; on the other hand, no case is so grave but that the patient may recover.

It should be remembered that enteric fever is a disease which cannot be suddenly broken up by any method of treatment; that an attempt to interrupt its progress by active measures—the so-called heroic plan—would be risking the life of the patient; that the natural tendency of the disease is towards recovery; that many cases will end favorably without medical treatment; a goodly number also will recover in spite of a very bad treatment, and from this fact too often has resulted confidence in a course of practice which, nevertheless, may have lengthened the duration of the disease and greatly prolonged the period of convalescence; that the best guide in the treatment is to study the epidemic or prevailing medical constitution,—the *tendency* to this or that mode of death,—and work accordingly and cautiously.

Isolation and ventilation are of the very first importance in the successful management of this fever, and their sanitary influence is well illustrated by the striking improvement a patient always manifests in from twelve to twenty hours after removal from a small room and a confined atmosphere to a large, well-ventilated chamber, without other change of treatment. I am well satisfied that the importance of thorough ventilation—by which I mean an abundant supply of fresh air constantly admitted to the sick-room—is not sufficiently regarded even in our best treatises on fevers. My own plan of management is as follows:

1. The patient, if possible, should have a separate room, and the presence of but one attendant or nurse at a time permitted. At least one thousand cubic feet of pure air, of proper temperature, should be supplied every hour to each patient and attendant, and care should be taken to have the bed- and body-clothing changed every day, or every other day.

2. Feed the patient moderately, allowing from a pint to a quart of good fresh milk daily, and, as the disease advances and prostration increases, the additional support of animal broths and essences.

3. Keep the patient in bed, or at least confined to the recumbent posture, even if he is apparently not very sick. Such timely care may possibly save him from perforation of the bowels and sudden death. The mildest cases, seemingly, are most exposed to this occurrence, and such a termination, in the majority of instances, is properly chargeable to the persistent exercise of the patient out of bed, if not out of doors. These "walking cases" are full of danger both to the life of the patient and the reputation of the physician, and are therefore always to be dreaded in practice. A sharp, open case is far more favorable and satisfactory to deal with.

4. To moderate the violence of the disease and prevent dangerous complications, the tinct. verat. viride, with chlorate of potash or with the liq. ammon. acetas, is perfectly safe and reliable, and may be administered in the dose of three or four drops (of the saturated tincture) every three or four hours. It controls the pulse, diminishes the temperature, and, in all ordinary cases, the patient is far more secure and comfortable under its influence.

5. To restrain too frequent action of the bowels, the subnitrate of bismuth, in the dose of twenty or thirty grains, with or without the addition of prepared chalk and Dover's powder, administered two or three times a day, accomplishes excellent results. If much tenderness of the abdomen exist, sinapisms, fomentations, and the oiled-silk covering afford great relief, and assist in the recovery of the patient. To prevent constipation during convalescence, look to the diet, and, should such regulation prove insufficient, any one of the tonic laxatives may be employed.

6. There is truly a "quinine tongue" in enteric fever, and its unerring indications are worthy of the most attentive regard. A large, pale, and relaxed or flabby tongue, whether clean or loaded, demands the use of quinine. In such conditions it will act like a charm. On the contrary, when the tongue is small or contracted, pointed, and red at the tip and edges, quinine if used surely does harm; but here, fortunately, opium is the great remedy, and the patient may be safely trusted to its influence so long as these conditions last.

7. To quiet nervous agitation, and procure rest and sleep, opium and camphor, Hoffman's ether, or the bromide of potassium in the dose of twenty or thirty grains may be employed. If opium in any form disagrees with the patient, the addition of the bromide of potassium to the dose usually soothes its action, and produces a better effect than when either remedy is administered singly. But should these agents singly or conjoined fail, then the hydrate of chloral may be given in the dose of fifteen or twenty grains every hour, until quiet and sleep are produced. Now and then I have witnessed the happiest effect from this dose,—quiet and refreshing sleep, reduction in frequency of the pulse, and a not less marked lowering of the temperature of the surface.

8. The supply of alcoholic stimulants in liberal doses is sometimes absolutely essential to the life of the patient, but they demand great caution and the wisest discrimination in their use. In some cases the conditions that require to be met by stimulants and tonics are present at an early period of the disease. Commonly they are not needed until during the second or third week of grave cases. Again I say, *feed the patient* moderately from the beginning, and thus take advantage of an important power to prevent dangerous prostration during the latter stages of the disease.

9. The period of convalescence should be carefully guarded,—neither too much food nor too much exercise. With ordinary care, relapses are not common.

**CAN MERCURIAL TREMORS COEXIST WITH CHRONIC LEAD-POISONING?**—Dr. W. Ainslie Hollis reports (*British Medical Journal*, July 1, 1871) two cases in which many of the symptoms of mercurial poisoning coexisted with some of those of lead-poisoning. In one of the cases the man, who was a looking-glass silverer, was affected with muscular tremors of the upper extremities, weakness of the extensors of the hands, ptalism, sponginess of the gums, and great fetor of the breath; but he also presented the blue line of lead-poisoning along the edge of the gums surrounding the incisors of both jaws, and had frequently suffered from gripping pains in the abdomen. Both patients were relieved by a simple treatment.

## NOTES OF HOSPITAL PRACTICE.

### UNIVERSITY OF PENNSYLVANIA.

CLINIC OF PROF. AGNEW, JUNE 7, 1871.

Reported by Dr. Elliott Richardson.

#### MORBUS COXARIUS.

THE first case presented was that of a little girl, aged 6 years, who had until last August enjoyed apparent good health. At that time she had an attack of hooping-cough, and during a paroxysm of coughing she was noticed to put her hand down to the left thigh and complain of pain in that locality. Since that time she has always walked lame.

The child was placed standing upon the table with legs and hips exposed, and a comparison was made between the two limbs. It was observed that the left limb was advanced, the knee flexed, and the toes everted. These symptoms, Prof. Agnew said, furnished three important points in diagnosis. Upon examining the parts in the neighborhood of the hip, other important diagnostic points were seen. The crease separating the gluteal region from the thigh posteriorly, which was normal and well marked on the right side, was entirely obliterated upon the left, the nates presenting a flattened appearance and merging imperceptibly into the thigh. The lymphatic glands in the groin of this side were enlarged. On making firm pressure upon the trochanter of the right thigh, no pain was experienced by the patient; but on repeating this experiment upon the left side, pain was felt. On placing the child upon her back, it was found impossible to bring the entire length of the back and the left knee in contact with the table at the same time; either the knee was elevated, or the lumbar portion of the spine was abnormally arched. When the limbs were brought down together, the left was found to be longer than the right, and motion of the diseased hip was found to be limited and attended with much pain.

Prof. Agnew said these were all symptoms of strumous disease of the hip-joint, which, in the larger number of cases, commences in the cartilage of the joint, but may have its origin either in the bone or the synovial membrane, and is often set up after an attack of measles, scarlet fever, or other exhausting disease of childhood.

The disease in this patient was in its first stage, that of elongation, caused by effusion inside the capsular ligament, by which the head of the femur is pushed outwards and downwards from the acetabulum, and, if not checked, will be followed by destruction of the acetabulum and the head and neck of the femur, by which finally shortening is produced.

The indications in this case, Prof. Agnew said, demanded two forms of treatment, local and constitutional. The first will be attained by such treatment as will keep the joint at rest and separate the articulating surfaces from each other, and by the application of derivatives to the surface in the neighborhood of the diseased joint. To accomplish these objects it was directed that the child be placed upon her back in bed and extension applied by means of adhesive strips, pulley, and weight, while at the same time small blisters should be occasionally applied to the hip. This treatment should be kept up until all evidences of active disease have disappeared.

To fulfil the indications for constitutional treatment, good and wholesome diet and the use of tonics were directed.

#### UMBILICAL HERMIA.

A woman, at. 39, had protruding from the abdominal walls at the umbilicus a tumor about the size of an egg. This tumor was of a deeper color than the surrounding tissues, gave a sensation of fluctuation on palpation, and presented very much the appearance of an abscess. She stated that she had had this growth for two months.

Upon a superficial examination, the usual distinctive symptoms of hermia were not detected.

There seemed to be no change in the size or degree of tension of the tumor, whether she assumed the erect or the recumbent posture, and no percussive sound was felt when she coughed; but on taking it up between the fingers, Prof. Agnew said he

found it to extend deep into the umbilical opening, and now, when pressing upon it, he noted a distinct gurgling sensation in the tumor, thus proving it to be a hernia. The hernia was reduced, and the patient directed to wear a suitable truss.

#### COMPOUND FRACTURE OF THE ORBIT.

A little boy, aged  $9\frac{1}{2}$  years, was struck ten days ago with an ice-hook, which produced a lacerated wound of the upper eyelid, and broke off a small spiculum from the orbital border of the frontal bone.

The wound was situated near the inner canthus, and had separated the punctum lachrymale from the canaliculus. It had healed rapidly, but, as the edges had not been carefully approximated, an operation for the purpose of bringing them into better position was recommended.

#### PHILADELPHIA HOSPITAL.

SERVICE OF DR. JAMES TYSON.

#### DIABETES MELLITUS—A SEQUEL OF RELAPSING FEVER—RECOVERY.

**G.** A., white, at. 42; is single and intemperate; a native of Sweden; by occupation a sailor; has been in this country twenty-eight years, during which time he has enjoyed perfect health; his parents and other relatives were healthy. He was admitted into the surgical wards of Philadelphia Hospital, May 4, 1870, with leg-ulcer, the result of an old gunshot wound received in 1861. After remaining in the surgical wards two weeks, he was taken with relapsing fever, and transferred to the medical wards, May 24, 1870. He had a very severe attack, and on the 12th of July, 1870, had only been up for two weeks. From the commencement of his attack he was so dull that it was impossible to obtain a reliable history from him.

July 12.—Convalescence has been slow. Soon after being permitted to leave his bed he noticed that his feet were swollen, as they still are, the swelling being greater at night than in the morning. His appetite is good, and he feels pretty well, and would leave the hospital but for the swelling of his feet and legs. On examination, three days ago, his urine was found acid in reaction, light in color, with a specific gravity of 1040, and yielded to all the tests for sugar abundant evidence of the presence of that substance.

This morning the specific gravity of his urine is 1040; sugar is very abundant. The whole quantity of urine voided during the last twenty-four hours was 3600 cubic centimetres; it is very pale in color; none of the peculiar urinous odor is present.

July 13.—Quantity of urine not so great; sugar still in considerable amount.

July 15.—Quantity much less; specific gravity 1012; sugar diminishing. From this time until September 12 there was no response to the usual tests for sugar, but the urine continued abundant, reaching 2500 cc., and being seldom if ever less than 1700 cc., in twenty-four hours. Until August 1, before which the sugar disappeared, the treatment was tonic and expectant. Later he was placed upon the opium treatment, as recommended by Pavy, and the bromide of potassium, as recommended by Flint, Sr. The quantity of urine, as stated, continued abundant, though he appeared otherwise quite well.

#### TETANUS.

H. B., aged 12, of German parentage, was seized on Monday morning, July 25, 1867, with abdominal pain, which his mother attributed to "cramp." The pain occurred paroxysmally, compelling the boy to bend himself forward at its occurrence. His mother administered aperients, to no effect; and later on the same day when the paroxysms would come on while he was sitting in a chair, he would straighten out, supporting himself, as it were, on the edge of the chair by the posterior part of his thighs, and on the back of the chair

by the posterior part of his neck. These symptoms increased daily, involving more and more of the muscular system, though he would walk about between the paroxysms. His bowels were moved with great difficulty.

On Thursday, July 28, at 9 P.M., I first saw him, when he lay upon the bed straight and rigid as an unbending board. At intervals of from two to five minutes paroxysms would occur in which the rigidity of his legs increased, but the flexors of the arms, fingers, and toes caused these members to be strongly inclined inwards. He was ordered one-sixteenth grain morph. sulph. every three hours.

On the following day he presented this condition: While upon the bed his muscles were rigid and his body straight, strongly suggesting the appearance of a frog tetanized by strychnia. At intervals of from five to seven minutes spasms would occur, in which the phenomena were like those described. When sitting upon a chair, however, in the intervals of the paroxysm, his legs would bend at the knee to embrace the edge of the chair, though immediately to be straightened on the occurrence of a spasm. There was evident difficulty in deglutition, but no trismus; and when the paroxysms set in, he would cry out for his father and embrace his neck during their continuance. The spasms seldom exceeded a minute in duration, and at such times only did he seem to be in pain. His pulse was 142, and respiration 44 in the minute.

It was with extreme difficulty that any history was elicited, but the following was noted:

During much of three weeks previous to July 25 there existed a linear suppurating sore in the second crease on the plantar surface of the left great toe. The boy had been running without shoes, but precisely how the wound was produced could not be determined. The father had placed over the wound a piece of shoemaker's wax, which the boy had removed, when there occurred a discharge of pus, which was evidently before retained by the wax.

Again, on Sunday evening, July 24, the boy stated to his mother that he had drawn a piece of bone from his foot, showing her a sharp spicule, half an inch long, pointed at one end, and about one-eighth of an inch wide at the other. The boy, in his imperfect way, indicated that the bone came from his right toe; but careful examination failed to reveal any point whence it undoubtedly came, the entire sole of the foot being scratched and scarred, as are usually the soles of barefoot boys.

Finally, on Wednesday, July 20, the boy had been with his mother upon an excursion on the river Delaware; had remained in the country all night, sleeping by an open window, into which a strong current of air was blowing. He also stated that while returning upon the following day, being very warm, he had removed his coat, and permitted the breeze from the water to play upon him when thus exposed.

It is not easy to decide which of the three possible causes was the most likely. In my opinion, either the first or the second would be sufficient to induce tetanus in an appropriate subject.

At the second visit, July 29, the opium was discontinued. He was ordered to be well nourished, to have a spinal icebag appropriately placed, and to take one-fourth of a grain of extract of calabar bean every third hour.

August 30, 11 $\frac{1}{2}$  A.M.—He took the first dose of calabar bean at eight o'clock last evening, and up to this hour he has taken one and a quarter grains. Pulse 132; respirations 44; pupil about three lines in a room somewhat darkened. The drug has therefore produced none of its physiological impression. Convulsions recurred about once in two and a half minutes until 5 A.M., since when they have been separated by intervals of from five to seven minutes.

6 P.M.—Pulse 136; respirations 60; pupil three lines.

The patient soon after this began to sink, and died within three hours. The physiological effects of the calabar bean were apparently not produced, though one and three-quarter grains were administered before he died.

The case cannot, of course, be allowed any weight, for or against, in determining the value of the calabar bean in tetanus, since the physiological impressions had not been produced. The drug was obtained from a most reliable pharmacist.

No post-mortem examination was obtained.

# THE MEDICAL TIMES.

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## EDITORIAL.

### UNDETECTED POISONING.

WHENEVER sensational headings in the public prints announce the arrest of another "Modern *Borgia*,"—as every fresh poisoner of two or more individuals is popularly styled,—medical men begin to scan very closely all suspicious symptoms in their patients, expecting to become involuntary detectives in some interesting case of medical jurisprudence. An obscure form of gastro-intestinal inflammation, especially if it terminates in death, awakens a vision of arsenical poisoning, and an otherwise inexplicable coma is at once suggestive of opium. As the timid criminal sees "a policeman in every bush," so the startled practitioner looks wistfully at the evidences of a disordered stomach or a violent enteralgia, anxiously wondering whether his patient is likely to be the hero of a medico-legal investigation, and himself the principal witness for the prosecution. After the excitement of the hour has passed away, and the trial that stirred up so much bitterness and indignation has become a matter of history, the case of cholera morbus, which seemed destined to be invested with public interest from its suspected toxic origin, comes down again to its proper level as a simple uncomplicated disorder of the digestive apparatus, and the brain-symptoms, which were supposed to be ascribable to narcotism, once more become the index of a purely cerebral affection, which in its consequences, be they what they may, is devoid of any legal pains or penalties. The transient impression made by the judicial investigation may not be wholly lost upon the physician, but he soon fails to apply its lessons to his own cases, and becomes only partially alive to the probabilities of similar instances occurring in his own after-experience.

Undoubtedly an increased though superficial knowledge of forensic medicine is thus acquired under temporary stimulation, but it extends perhaps no farther than an acquaintance with the properties for good or evil of the special poison which has been the subject of heated discussion in the court-room. If medical jurisprudence were more generally incorporated into the teachings of the schools, as an essential branch of professional education, and every student instructed that this class of cases, which so frequently occupy a place on the police records, may at some future day interest and embarrass him in his personal practice, the even

tenor of professional life would be rarely ruffled by those exciting incidents which disturb and agitate the great masses of the laity. A more thorough education in this respect would also obviate the confusion and disgrace that sometimes attend the examination of medical witnesses, who, in the hurried preparation or perhaps total want of preparation and digestion of their views for the witness-box, furnish conflicting testimony as to the effects of poison, etc., and give expression to diametrically opposite conclusions.

Another point of considerable interest and importance arises from the similarity of some of the symptoms of poisoning to those produced by general pathological causes. Cases of undetected poisoning are of much more frequent occurrence than is generally supposed, and even in the hands of the most skilled practitioners remain permanently unrecognized. Criminal abortion has of late years received decided attention, as being, by its ante-natal "murder of the innocents," a very serious cause of the destruction of human life; but the statistics of secret murder by slow or rapid poison after birth must ever remain unrecorded. It is possible that hundreds of deaths ascribed to natural causes in tables of mortality are due to the wanton and murderous designs of criminal parents or relatives, and that even adults often fall victims to the malevolence of false friends or insidious foes, their sudden deaths being perhaps, in the absence of a post-mortem examination, ascribed to heart-disease or apoplexy. We must not for a moment persuade ourselves that the cases which once in a while agitate the public mind by their enormity or their atrocity are wholly exceptional, because others equally terrible have failed to be detected. It is clearly the duty of the physician to so cultivate and perfect his knowledge of the effects of poisons, and of their relations to criminal processes, that he may arrive with a tolerable degree of certainty at a correct differential diagnosis between these and the numerous other forms of physical suffering that afflict mankind. The history of every suspected case should be carefully traced out, and if the stain of guilt attaches to it, the physician should be the first to communicate his suspicions in a quarter in which the information may be made available.

### THE MEDICAL PROFESSION AND THE TEMPERANCE QUESTION.

WE are rejoiced to see the medical profession at last taking a positive position with respect to the evils of excessive indulgence in alcoholic stimulants. That this is on the increase cannot be denied. The statistics of crime alone, to say nothing of other records, would be sufficient to awaken in every thoughtful physician a sense of the importance of an effort to cripple a power which threatens to undermine the very fabric of society. The statement of Dr. Mendenhall at the meeting of the American Medical Association for 1870, that "as conservators of public health it may be a subject for deep and earnest atten-

tion whether we can do more than we have done to prevent the gigantic evils attendant upon the use of alcoholic stimulants," happily received an impulse at the hands of Prof. Alfred Stillé, who, referring to the custom of many physicians of unnecessarily prescribing alcoholic preparations, closed his scholarly address at the last meeting of the Association in the following words: "The habit is fraught with danger of stimulating the instinctive love of intoxication, and thereby entailing misery in comparison with which death is far to be preferred."

Of that greater evil, the sale of quack medicines which are largely composed of alcoholic preparations, we have unqualified condemnation. The Pennsylvania State Medical Society did well to adopt, at its late meeting, the following preamble and resolutions:

*"Whereas,* It is a fact that opium and its preparations, and numerous advertised and patented alcoholic compounds, as sold by druggists and others, are used as common intoxicants: therefore

*"Resolved,* That a committee be appointed, to consist of one member from each County Society here represented, or entitled to representation in this body, to be known as a Committee on Opium and Alcoholic Intoxicants, whose duty it shall be to collect such facts and statistics as may be within their reach, and make report thereon next year.

*"Resolved,* That the committee have power to fill vacancies in their own body, and to add to their number in localities where it may seem to be called for."

We sincerely hope that a legal restriction may reach the scoundrels who deluge the country with their vile trash, and that the apothecary may be brought in some way to appreciate the propriety of refusing to dispense this class of articles over his counter.

Besides the limitation of the sale or improper use of intoxicants as affecting society, the profession has to consider the results of prolonged license in the individual. To cure the drunkard if possible, to care for him as an unfortunate, and to protect society from his acts if he be incurable, are labors strictly in the line of professional duty. It is here, indeed, that the true temperance reform, viewed from a medical stand-point, may wisely begin, and it is from this vantage-ground that we may consider inebriety a disease, to be treated and classified as such. Drunkards may be conveniently divided into curables and incurables. There is little doubt that the curables—those periodic debauchees who drink only at times of unusual excitement—are in a majority of cases rendered amenable to treatment by simply withholding an easy access to the cause. The incurable minority—the actual sots, who live but to drink—may be made comfortable during enforced restraint, if nothing more. Between these two classes lie those curables rapidly tending to become incurable. This is a large and increasing number. In every community there are many who are never entirely free from a craving for strong drink,—men who inherit weak constitutions, —who manage to attend to their occupations with some show of regularity, yet who, as a recent writer has expressed it, acknowledge getting drunk to be their pastime. Let one of this class be thrown from an

easily disturbed balance by any of those numerous causes interrupting the routine of this working-day world, and straightway the fate of the inebriate is before him, unless, indeed, enforced restriction be temporarily imposed. The inebriate asylum is designed for the care of all addicted to drunkenness, but more particularly to afford an asylum for the last-mentioned cases. Much credit is due to the founders of such institutions as the Ostiag House, in the island of Skye, and the Binghamton Asylum and "Sanitarium" in this country. They should be honored as the projectors and encouraged as the conductors of valuable yet most delicate enterprises. They stand in need of that kind of support which the action of representative medical bodies can alone give, not only in urging special legislative assistance, but also in removing as far as lies in their power the causes which bring these institutions into existence. Surely such action may be considered in accord with that clause in the Code of Ethics which advises, "Give counsel to the public in relation to matters appertaining to the welfare of the community."

#### NEW MEAT-PRESERVING PROCESSES.

**A** NEW preparation of preserved beef, entitled "Condensed Raw Beef (Pulverized)," has recently been left with us. It is a perfectly dry, pulverulent substance, of a brownish hue, and a peculiar, indescribable, but not unpleasant odor. It appears to dissolve readily when placed upon the tongue, and exhibits a pleasant taste, more comparable to that of dried beef than to that of any other substance with which we are familiar.

It is prepared by the National Preserving Company of Baltimore, of beef deprived of its moisture by a new process, which is not described, but by which it is alleged that the solid substance of the flesh is preserved in its natural condition, the albumen being uncoagulated. No seasoning is added in the preparation. It may be administered dry, mingled with bread-crumbs, or spread upon buttered bread, or it may be made into soup. In the former condition, it is thought, it will be available with children, who often refuse to take liquid preparations. If it subserve its purpose,—and whether it will, can be determined only by trial,—it is certainly the most convenient of all the forms of preserved meat which have come under our notice. It is already endorsed by many of the leading practitioners of Baltimore, and we think it deserves a trial at the hands of Philadelphians and others.

The number of the London *Medical Times and Gazette* for July 8, 1871, contains also an editorial notice of a new meat-preserving process, of which one product seems similar to this. Patented by Mr. T. F. Henley, an engineer, the process aims to extract by simple pressure a large portion of the juice from the fibres of meat, and to leave the latter in an available condition as food, if preserved simply by moderate desiccation. The meat-juice, rich in extractive matters and containing over eighty per cent. of albumen, is

evaporated in vacuum-pans, so as to retain its solubility, flavor, and unchanged alimentary properties. The method relied on is said to be the oldest and safest, —that of extracting moisture at low temperatures; and the mechanical means adopted omit the use of water, great heat, and the coagulation and separation of albuminoid matters.

The apparatus of Mr. Henley is said to be simple, consisting of powerful presses and evaporating-pans, and is open to inspection by visitors.

We regret that no description has been furnished us of the method or apparatus used by the Baltimore Company, but we should judge the processes to be similar. Both furnish the raw material, and in both the meat-fibre appears to be retained, though in communication.

Certainly no subject is of greater importance than that of preserving meat in such manner as to make it at once efficient, palatable, and therefore applicable under all circumstances.

## TRANSACTIONS OF SOCIETIES.

### MEDICAL SOCIETY OF WHEELING.

#### DISCUSSION ON SUDDEN DEATH IN PUEPERAL CASES.

Reported by S. L. Jepson, M.D., Secretary.

**A**T a monthly meeting of the "Medical Society of the City of Wheeling and County of Ohio," West Virginia, Dr. R. H. Cummins, President, in the chair,

DR. HUFP called the attention of the Society to an interesting case to which he was called the previous night. The patient had been confined five days before, and, sitting up on the day on which he was called, had exposed herself imprudently to a current of air. At 8 P.M. she grew suddenly faint, and her friends were alarmed. On arriving, he found her pulse 90, face pale and anxious, respiration suppressed, surface cold and in a profuse perspiration, and she really appeared in a dangerous condition. She suffered no pain, nor was there any sign of inflammation. He prescribed for the case, and the patient is reported better to-day.

Some years ago the speaker had been called to a case not unlike this one. The woman had been confined, and was doing well, until the third day, when she was suddenly seized with a chill, and died before he could reach the house. He was anxious to know the cause of such sudden prostration and death. Was it embolus, or mere syncope? or can any satisfactory explanation be given?

DR. HILDRETH said sudden deaths of puerperal women were by no means pleasant occurrences to the physician, and all such possessed a peculiar interest. He had met such cases in his own practice. Some years ago he was summoned to see a pregnant woman, and found her in good health, but fearful that she was not going to survive her confinement. He allayed her fears as much as possible, and a week later she was safely delivered of a healthy child. At the time of labor she especially feared hemorrhage, but no abnormal amount occurred. She continued well until the third day, when symptoms similar to those related by Dr. H. occurred suddenly, and death seemed impending. A consulting physician was called, but the patient rapidly sank and died. He had never been fully satisfied as to the cause of her death.

DR. R. H. CUMMINS desired to relate the history of a case of sudden death of a puerperal woman, not, however, exactly similar to those already mentioned. The patient, at 30, in good health, had been delivered of a fourth child, and convalesced favorably until the fourth week, when symptoms of pleurisy set in, but they were not severe in character. In ten

days, with diaphoretics and morphia as the principal treatment, she had so far recovered from pleurisy as to sit up in bed and do some light work, such as cutting out children's clothes. All physical signs of pleurisy had disappeared. She had resolved to leave her bed the next day after doing the above work. About noon, however, when her husband was at dinner below, and only her servant was present, she was suddenly attacked with unfavorable symptoms. Her husband, arriving almost immediately, found her bent forward, and, as he described it, "in a spasm," but probably she was in a fainting-fit. The speaker arrived a few minutes later, and found her bent forward, her head partially covered by a pillow, her countenance pallid and anxious, frothing at the mouth, gasping for breath, pulseless at the wrist, but her heart still beating, and intellect perfectly clear. She gasped, indistinctly, a few words, and in a very few minutes was dead. In this case conditions most favorable for the formation of heart-clot—the puerperal state and pleurisy—were present, and to this cause the speaker attributed the fatal termination.

A *post-mortem* examination was held four hours after death. Recent adhesions were found near the base of the right lung, and slight old adhesions at the apex of the same lung. A small point of this lung, about the size of a turkey's egg, was hepaticized. Patches of tubercle, hardened and calcareous, existed in both lungs, but were more abundant in the left.

DR. C. had reflected much on this case, and in connection with the lung-trouble had asked himself whether the old plan of treatment of pleurisy and pneumonia, viz., bloodletting, general and local blisters, etc., with a view to abort the inflammation, was not after all the best, and productive of the least mortality. Would not accidents such as have been reported to-night be less apt to occur under such treatment, since the longer the inflammation exists, the more fibrinated does the blood become, and hence the greater the liability to clot-formation? He merely suggested these points, without giving any positive opinion on the subject.

DR. FRISSELL reported a case of sudden death, somewhat similar to those already given, occurring in an adult female patient convalescing from measles. She had been sitting up, had partaken of a hearty dinner, but towards evening became suddenly unwell. He found her perfectly rational, but with distressed countenance, and fearful of death. She rapidly sank, and died before midnight.

As to the cause of death in these cases, he had generally considered that some sudden congestion of the lungs, or about the heart, played a prominent part. Perhaps by undue exposure to a cool atmosphere, or to a draught of wind, the capillary circulation, already enfeebled by disease, becomes still further interfered with, and the blood is thus driven back about the vital organs of the chest, the circulation becomes much impeded, respiration is consequently interfered with, and death results.

DR. REEVES remarked that few medical men had been so fortunate as to escape meeting with cases of sudden death in their practice, and especially in the case of patients in the puerperal state. He has had his share of the sad experience. He had often thought it possible that shock had something to do with the result in those cases in which death occurred soon after delivery. One case he remembered well. The patient, whom he was attending in labor, had but a single severe pain, when she collapsed, and was delivered with forceps; she remained pulseless for forty-eight hours, but finally recovered. Another patient, Mrs. S., had been delivered of her fourth child, and convalesced favorably until the ninth day, when, while sitting by the fire nursing her child, a sudden sense of faintness came over her, she fell, and in a few minutes was dead. She had positively no bad symptom up to the moment when the faintness seized her.

As to the theory of embolism that is offered as an explanation of these sudden deaths, the speaker would inquire how we are to determine, when making *post-mortem* examinations, the *ante-* from the *post-mortem* clot? Have pathologists established any positive diagnosis between them? Very few autopsies are made in which clots are not found in the heart; but if we are not able to say when they have been formed, how will they aid us in arriving at the cause of death? As to the comparative value of the older and more modern plans of treatment of pleurisy and other inflammations, he accepted the latter as the better, and thought that statistics would prove

its superiority. He did not believe the old method gave any security against embolism.

DR. CUMMINS thought that *shock* was out of the question in these cases, and certainly in the one he had detailed. Six weeks had passed since confinement; her convalescence was satisfactory, and convalescence from the pleurisy was also progressing favorably, when death occurred as described. He had arrived at the diagnosis of heart-clot by the process of exclusion. The patient was perfectly rational to the last. Hence no brain-trouble could have been present; the uterus had arrived at the proper stage in the process of involution, and was perfectly healthy in appearance. All the abdominal organs were healthy; the disease of lung was certainly not sufficient to cause death. There was no indication during life of any prior heart-disease, nor was there a history of rheumatism. The symptoms prior to death were such as would be caused by an obstruction of the circulation; and, lastly, a firm clot was found in the heart. Doubtless this clot, or rather a portion of it, passing into the pulmonary artery, cut off the blood from the lungs; and, respiration being thus prevented, death resulted.

DR. HILDRETH said that he had witnessed the autopsy in Dr. C.'s case. He described the post-mortem appearances as already given, with the difference that there was considerable congestion extending from the hepaticized portion of the lung. His theory of the cause of death was, that the circulation being already impaired by the tubercular condition of the lungs and the inflammation existing in the right lung, a sudden congestion had probably occurred, and the circulation thus became so much more disturbed that respiration was obstructed and death resulted. Very unfortunately, he added, the contents of the heart and pulmonary artery had been emptied in removing them, and he thought a satisfactory examination was not had; therefore the existence of a clot, other than those so frequently found in the heart, was not well ascertained. He had seen and made many post-mortems, and almost always found clots in the heart.

DR. BATES remarked that a peculiar interest attaches to these sudden deaths of puerperal women; and perhaps under no other circumstances does the death of a patient create so much dissatisfaction with a physician. He used to cease his attendance upon women on the third day after confinement, but of late years was in the habit of watching them for several weeks. So many accidents are liable to occur in this state, that this was necessary if we would insure the safety of our patients. Women were very apt to leave their beds too early, unless watched and cautioned; and no more imprudent act can be committed. By seeing them frequently, and until danger is past, we could impress upon their minds the necessity of great care, and thus lives might be frequently saved. It is the solemn duty of a physician, so long as any danger from these puerperal accidents remains, to watch his patient closely.

As to the cause of death in the case under discussion, the speaker adopted the heart-clot theory, and thought that the symptoms preceding death pointed decidedly to this cause. Congestion is a convenient term, and frequently resorted to; but what are we to understand by it? An accumulation of blood, a stasis. Now, if the circulation had previously in this case been materially interfered with, there might have been congestion; but would the termination have been so sudden? He was by this case reminded of the sudden death of a patient last winter, the cause of which he thought the same, though no autopsy was held. A young man, aged 21, was convalescing favorably from pleuro-pneumonia, when he was seized with violent dyspnea. His pulse almost ceased; his face became purple, and, throwing himself forward, he gasped for breath, but in vain. All remedies were without effect, and death brought relief in a few hours. Cases such as those reported show plainly the necessity of great care and prudence on the part of the recently delivered woman; and physicians cannot be too vigilant in watching and warning them.

Remarks were made further advocating the theory of congestion, to which Dr. CUMMINS objected decidedly, as applied at least to his case; because—1st. Congestion is greatest *prior to* inflammation. In his case the inflammation was subsiding; and why should a sudden congestion occur at this period? 2d. The autopsy presented no appearance of con-

gestion of the lungs. 3d. Congestion could not have produced death in so speedy a manner. 4th. The symptoms were exactly such as we would expect to find in a case where the circulation was obstructed by an embolus. 5th. The heart did contain a small, firm clot.

DR. HUPP related the treatment and result in two cases of pleurisy, to illustrate the comparative efficacy of the old and new modes of treatment. He was called to a patient with pleurisy eight weeks ago, and prescribed the ordinary treatment of mild counter-irritation, with a diaphoretic and expectorant mixture. The pain, in time, subsided; unfavorable symptoms disappeared, and in a few days the patient went to work, in apparently good health, save a slight cough. The symptoms, however, soon returned, the cough and pain increased, and the patient was compelled to return to his bed. He was then cupped and blistered. The symptoms again soon subsided, and he is now in a fair way to recover.

Since this case was first seen, another similar, but more severe, case had come under the speaker's care. He found the patient, an adult male, suffering with a very severe pain in the chest; respiration and cough were much interfered with. He feared for the patient's safety. Six or eight cups were used on each side of the chest, and blood was freely taken. The pain almost immediately subsided. The next day a very large blister was applied to the chest. He also gave an expectorant and anodyne; and in two days the impending danger was past. A speedy and complete recovery resulted. The speaker thought that if the same energetic measures had been adopted in the first case the relapse would not have occurred. He was in favor of active measures in these cases of sthenic inflammation.

## PATHOLOGICAL SOCIETY OF PHILADELPHIA.

### CORRECTION.

**I**N the report of the proceedings of the Pathological Society in the last number (21) of the *Medical Times*, it was stated that Dr. John S. Parry exhibited the lungs of a child 2 years and 23 months old, both of which were the seat of miliary tubercle. It should have read 2 months and 23 days old, the extreme youth of the child being the point of greatest interest.

## REVIEWS AND BOOK NOTICES.

**A PRACTICAL TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD.** By THOMAS HAWKES TANNER, M.D. Revised and enlarged by ALFRED MEADOWS, M.D. 8vo, pp. 550. Philadelphia, Lindsay & Blakiston, 1871.

In this handsome volume of 550 pages one can scarcely recognize the old friend of one's student-days, when the well-balanced differential diagnosis, the categorical array of symptoms, and the "ex cathedra" tone in which the appropriate remedy was promulgated, brought comfort to our hearts, and showed us that a correct diagnosis and successful treatment were, after all, but matters of mnemonics. Each symptom succeeded the other in such mathematical sequence, and the diseases had such strong family likenesses, and yet withal such sharp and distinctive individual features, that failure to recognize them was impossible. It was like the "dissected maps" for children, where each piece, however bizarre its form, has its own predestined place, and the curves and angles fit into one another, and correspond so accurately that the "perfect whole" inevitably results. Let, however, by chance an angle be broken off, a piece, however small, be lost, and the child in vain turns and twists the remaining parts; they can never be made to fit, and petulantly it throws away the useless toy. In like manner, when the student, after having carefully committed to memory pages of the manual, finds, at the bedside of the patient, that one of the *expected* symptoms is wanting, a pulse rapid when it should be slow, an eruption papular when it should be vesicular, instead of

studying the individuality of the case, he vaguely feels sure that "something is wrong," mistrusts his memory, and—turns to Tanner.

In the present edition of Tanner's Manual one cannot read a dozen pages before it is evident that the whole subject is treated in another manner, and that, instead of a collection of unsound aphorisms, we have the result of more careful reading and thorough observation. This change is explained by the preface, which states that the entire work has been carefully revised, and some new chapters added, by Dr. Meadows, already well known as the translator of "Bernutz and Gouppil's Treatise on the Diseases of Women," and as the author of several interesting and original articles published in the medical journals, and in the Transactions of the Obstetrical Society. A systematic arrangement of the subject-matter has been introduced, and much that is new and valuable added; but the disadvantages arising from the joint authorship of the book are evident. Contradictory statements can easily be pointed out. For instance, on p. 83, in speaking of the management of the cutaneous eruptions, the author says, "they are best left pretty much to themselves, at all events for a time; we have frequently seen attempts to cure them succeed admirably so far as the eruption, but very badly so far as the effects produced elsewhere, either in the form of convulsions or some other grave disorder;" while on page 86 it is stated that "the popular dread of the suppression of cutaneous eruptions giving rise to diseases of the internal organs is founded on the frequency with which metastasis is seen to occur in the diseases of children." While this represents very well the unsettled state of medical opinion on this point, the mind of the student must be somewhat confused as to which view is advocated by the author. In other places the attempt to change and twist the old into a respectable harmony with current theories and beliefs has resulted in but a sorry patch-work. One is reminded of Heine's humorous description of the German summer as, "after all, only a winter half daubed-over green."

Dr. Meadows in his preface especially invites attention to the views which he has advanced as regards diathesis; and hence we are prepared for a frequent invocation to this "deus ex machina" to explain obscure points in pathology; but, with all due regard for an author's enthusiasm for a pet theory, we must protest against his inflicting on his reader an absolute verbal repetition of an entire passage, nearly a page in length, when illustrating the importance of considering the diathesis in the treatment of the diseases of children (pp. 111-183).

The author assumes the existence of four diatheses, viz.: the scrofulous, the tuberculous, the ricketty, and the syphilitic. "So distinct are these in their external aspects, their physiological characteristics, and their pathological tendencies, that they seldom coexist in the same individual; indeed, some of them have directly antagonistic influences, and cannot operate in the same organism." After this bold and sweeping declaration, we are, we confess, a little surprised to find it stated in the same paragraph that "the syphilitic diathesis may occur with either of the other three," and that "the ricketty and scrofulous seem to have a less distant relationship," while the former "may be, though rarely, combined with tuberculosi." Having made these concessions, however, Dr. Meadows takes heart, and boldly affirms that tuberculosi and scrofula "are not identical, but in many respects *absolutely dissimilar*, and to some extent even *antagonistic*." After the full and free discussion in the London journals and societies of the important advance in pathology which we owe to Virchow, Niemeyer, and Bühl, who have shown that the absorption of scrofulous, cheesy matter is the common and direct cause of tuberculosi, a statement of this kind hardly deserves criticism, the more so because this question, as illustrated by the experiments of Wilson Fox and others, is dismissed with the remark "that even if true it is of interest rather pathologically than clinically," and at all events "does not possess any *practical* importance."

"It is supposed by some," the author says, "that the gray and yellow tubercle merely represent two varieties of the same disease;" and, with a commendable desire "fairly to represent the present state of our knowledge in this department," he adds, "that *more recent* observations tend rather to confirm this view."

"Tubercle consists," we learn, "of an exudation of the liquor sanguinis, presenting differences from the inflammatory exudation on the one hand, and the cancerous exudation on the other." Without expecting from a book, whose aim is to be "practically useful to the student," any discussion of advanced views in pathology, are we not justified in insisting that time be not wasted in committing to memory such statements as these?

To make the treatment of meningitis correspond chronologically with the views advanced in pathology, our author advises the treatment recommended by Prof. Gölis, in Vienna, "after great experience," viz.: calomel, the daily injection of two drachms of mercurial ointment, the head to be kept constantly covered with a flannel cap to prevent all risk of the perspiration being checked, (1) diuretics, and an issue on the neck, or on each shoulder, to be kept open for months. (The second edition of Prof. Gölis' work on Hydrocephalus was published in Vienna in 1820.) In the chapter on renal diseases Dr. Tanner suggests that "if greater attention were paid to this point, it would be found that morbid conditions of the urine, and especially albuminuria, are much more frequent accompaniments of other diseases than are commonly supposed." This subject has lately been thoroughly investigated by Prof. Steiner, of Prague,\* who verifies this supposition of Dr. Tanner's by the post-mortem reports of 265 cases of *morbus Brightii* in children. The other forms of disease affecting the kidneys in childhood are also described at length.

The author speaks of the value of the thermometer in the diagnosis of children's diseases, and rejoices that it is now available in a "cheap and portable form." We cannot forbear to add a word of caution with regard to the use of these instruments, for we have ourselves tested those made in London, and found a difference of two degrees when three of them were exposed to the same temperature. The use of the thermometer in the axilla, as Dr. Tanner advises, presents serious difficulties; for apart from the restlessness of the child, which renders it no easy matter to hold the instrument in place "from eleven to twenty-four minutes, as Dr. Baumler recommends," the respiratory movements alone tend in a few moments to displace the instrument, unless held in position by the observer. The insertion of the bulb of the thermometer in the rectum is, we think, without doubt, the most convenient and reliable method of determining the temperature in children. We regret to see that the observations made by Roget on the temperature of children in health and disease—the fallacies and inaccuracies of which have been made the subject of a sharp critique by Zienissen—are again quoted as authority.

**THE CHANGE OF LIFE IN HEALTH AND DISEASE.** A Practical Treatise on the Nervous and other Affections incidental to Women at the Decline of Life. By EDW. JOHN TILT, M.D., Senior Physician to the Farringdon General Dispensary and Lying-in Charity, Vice-President of the Obstetrical Society of London, etc. etc. From the third London Edition, 8vo, pp. xviii., 292. Philadelphia, Lindsay & Blakiston, 1871.

Early in life Dr. Tilt was struck by the wise remark of Goethe, "that if a man wants to make his mark, he must set bounds to his work, beyond the limits of which he must not suffer his steps to stray, and work to the uttermost of his power within those appointed bounds." He took to himself the physiology and diseases of women as his field of labor.

Again, when the census was taken in 1861, 1,177,535 women between the ages of 45 and 55 were living in Great Britain and Ireland. This work professes to tell their history, records the probabilities and inevitabilities of their future, and investigates the many diseases by which it may be checkered, based upon the tabulated estimates of the symptoms and of the diseases of five hundred women who were at the change of life, or had passed the menopause.

With such a resolution as the first clause contains, and such material as the second implies, there is required little more than ordinary ability to secure a proper realization of such profession. But we believe Dr. Tilt brings much more than

ordinary merit to bear on his subject, and handles it accordingly. No recent researches in physiology or pathology which have any bearing are overlooked by him, and, as a result of his method, a completeness attaches to each of the subjects treated, which greatly increases the value of the work.

It would be impossible, in the space permitted us, to analyze the volume, nor is it necessary, since it has already reached in London a third edition, of which this is a reprint by the American publishers. A mere enumeration of the subjects treated will serve to indicate their importance. They include the physiology of the change of life, principles of pathology of the change of life, principles of treatment at the change of life, principles of hygiene at the change of life, special pathology of the change of life,—including diseases of the ganglionic nervous system, diseases of the brain, neuralgic affections, diseases of the reproductive organs, diseases of the gastro-intestinal organs, diseases of the skin, and other affections occurring at the change of life.

It will be seen that the subjects are of a kind most cursorily if at all elsewhere discussed, and the work therefore contains information nowhere else to be obtained. Few books are issued which are more indispensable to the general practitioner, none of which he will be less likely to regret the purchase.

DACTYLITIS SYPHILITICA; with Observations on Syphilitic Lesions of the Joints. By R. W. TAYLOR, M.D. (Reprinted from *The American Journal of Syphilitography and Dermatology.*) Pp. 30. New York, F. W. Christern, 1871.

The author describes a case of inflammation of the flexor sheath and connective tissues of the second toe of the right foot, occurring in a syphilitic subject in the third year after infection. Other cases of a similar character, narrated by Nélaton, Lüche, Berg, and others, are given, and résumé presenting our knowledge of the subject added. Dr. Taylor divides the cases into two classes: "(1), where the subcutaneous connective tissue, as well as the fibrous structures of the articulations and the phalanges, is involved; (2), where the morbid processes begin in the periosteum and bones, and secondarily implicate the joints, and may or may not be accompanied by deposit in the subcutaneous connective tissue."

It occurs to us that, while Dr. T.'s cases and those collected by him are interesting, he has subjected himself to the charge of prolixity in spreading out his comments over fifteen pages.

FOOD FOR INFANTS. By HIRAM CORSON, M.D. Pamphlet, 8vo, pp. 14. (Reprinted from the *Northwestern Medical and Surgical Journal.*) St. Paul, Pioneer Printing Company, 1870.

It is said that Sheridan once astonished some friends at a dinner-party by inquiring whether they intended to drink like brutes or like men. "Like men, of course!" was the indignant reply. "Then," said he, "we shall all be jolly drunk, for brutes never drink more than they want." Dr. Hiram Corson, recognizing the fact that babies live an essentially animal life, is an advocate for giving them the largest amount of nourishment that they will take, maintaining his position by the forcible argument that the sensations of the child, and not the fancies of others, are the best index of its needs. Overfeeding, indeed, is something which is oftener read of than seen, and the stomachs of infants especially will not be coerced into submission while they possess a safety-valve in the shape of an oesophagus. But this doctrine, which is usually accepted in regard to the quantity, is not so generally recognized as to the quality, of food.

Here again we must be guided by observation, remembering that the object to be attained is the perfect nutrition of our little patient. If it thrives upon one-third milk and two-thirds water, there is no advantage in changing the diet; but if, on the contrary, those symptoms of malnutrition with which every physician is familiar present themselves, it is evident that its food should be rendered more nourishing. We are indebted to Dr. Corson for the demonstration of the practical utility of beginning our trials with pure cow's milk, since the only inconvenience which is found to occur is the regurgitation of a part of it, while, on the other hand, the infant runs the risk of starvation, or at least of numerous diseases, before any notice is taken of the deficiently nutritious quality of milk and

water. If he succeeds in his object "of directing attention to the fact that many thousands of the children who annually die prematurely die from want of food," he will have accomplished a great work; but if he proposes to give all children pure cow's milk without reference to its agreement or disagreement with their stomachs, he will have fallen into the same error with those who confide exclusively in milk and water.

As an earnest appeal to mothers, this essay deserves a careful reading; as a contribution to Social Science, it is no less valuable.

AFFECTIONS OF THE THROAT AND LARYNX. The Classification, Description, and Statistics of 150 Cases, occurring in the Throat Department of St. Mary's Hospital. By ARTHUR TREHERN NORTON, F.R.C.S., Assistant Surgeon, and Surgeon in Charge of the Throat Department of St. Mary's Hospital; Lecturer on Anatomy in the Medical School. 8vo, pp. 39. London, Robert Hardwicke, 1871.

This is an admirably-printed octavo volume of thirty-nine pages, containing clinical histories of a number of cases of throat-affections treated at the above-named hospital by Drs. Norton and Sieveking, giving examples of nearly all the ordinary diseases of the pharynx and larynx, and written in a plain and very condensed style. The work is a reprint of Papers on Diseases of the Throat and Larynx, which appeared in the London *Lancet* in 1870. It opens with the "Mode of Applying the Laryngoscope," and recommends the use of the perforated mirror, held in position before the eye of the operator by a spectacle-attachment; and for fixing the tongue, its forcible drawing forward, enveloped in a napkin, by the left hand, the index-finger being interposed to prevent its being injured by the teeth of the patient.

The cases are collected into classes and subdivisions, by which reference to them is much facilitated, and the author has been enabled to condense them very materially, at the same time recording their general characteristics and therapeutic treatment without a tedious repetition of details. Thirty-eight of the patients were tainted with syphilis, thus complicating their diseases and rendering the cure more tedious. The remaining one hundred and twelve belong, with few exceptions, to the general run of throat-affections met with in the daily routine of private practice, and are valuable for ready reference, especially as they have not been selected for publication and do not lay claim to any extraordinary character or results.

In the laryngeal cases, direct topical application by the physician appears to have been made in most instances, the favorite remedies being strong solutions of nitrate of silver and chloride of zinc. Inhalations of creasote and tincture of iodine were directed, but atomization was very seldom used, possibly owing to the greater difficulty of using the necessary instrument, as compared with the common inhaler, in the class of patients treated.

We cordially recommend Dr. Norton's treatise to all physicians desiring to accomplish, by simple means, the cure of those affections of the throat which, within a few years, have been opened to our eyes and brought to a better understanding by means of the laryngoscope.

#### BOOKS AND PAMPHLETS RECEIVED.

The Antiseptic System: A Treatise on Carbolic Acid and its Compounds; with Inquiries into the Germ-Theories of Fermentation, Putrefaction, and Infection; the Theory and Practice of Disinfection; and the Practical Application of Antiseptics, especially in Medicine and Surgery. By Arthur Ernest Sansom, M.D., London. With Nine Page-Plates. 8vo, pp. xi., 356. Philadelphia, J. B. Lippincott & Co., 1871.

Annual Circular and Catalogue of the Washington University, Medical Department, Baltimore, Md., 1871.

Twenty-Ninth Annual Announcement of Rush Medical College, Chicago, Ill., for the Session of 1871-72, with a Catalogue of the Students of Previous Session and Graduates from Organization of Institution.

## GLEANINGS FROM OUR EXCHANGES.

SPONTANEOUS GENERATION.—Prof. Tyndall (*The Doctor*, July 1, 1871) delivered during the month of June an interesting lecture at the Royal Institution, in which he dealt as follows with the problem that has lately excited renewed attention:

"As regards the lowest forms of life, the world is divided, and has for a long time been divided, into two parties, the one affirming that you have only to submit absolutely dead matter to certain physical conditions to evolve from it living things; the others, without wishing to set bounds to the power of matter, affirming that in our day no life has ever been found to arise independently of pre-existing life. Many of you are aware that I belong to the party which claims life as a derivative of life. The question has two factors: the evidence, and the mind that judges of the evidence; and you will not forget that it may be purely a mental set or bias on my part that causes me throughout this discussion, from beginning to end, to see on the one side dubious facts and defective logic, and on the other side firm reasoning and a knowledge of what rigid experimental inquiry demands. But, judged of practically, what, again, has the question of Spontaneous Generation to do with us? Let us see. There are numerous diseases of men and animals that are demonstrably the products of parasitic life, and such disease may take the most terrible epidemic forms, as in the case of the silkworms of France in our day. Now, it is in the highest degree important to know whether the parasites in question are spontaneously developed, or are waisted from without to those afflicted with the disease. The means of prevention, if not of cure, would be widely different in the two cases.

"But this is by no means all. Besides these universally admitted cases, there is the broad theory now broached and daily growing in strength and clearness,—daily, indeed, gaining more and more of assent from the most successful workers and profound thinkers of the medical profession itself,—the theory, namely, that contagious diseases generally are of this parasitic character. If I had heard or read anything since to cause me to regret having introduced this theory to your notice more than a year ago, I should here frankly express that regret. I would renounce in your presence whatever leaning towards the germ-theory my words might then have betrayed. Let me state in two sentences the grounds on which the supporters of the theory rely. From their respective viruses you may plant typhoid fever, scarlatina, or smallpox. What is the crop that arises from this husbandry? As surely as a thistle rises from a thistle-seed, as surely as the fig comes from the fig, the grape from the grape, the thorn from the thorn, so surely does the typhoid virus increase and multiply into typhoid fever, the scarlatina virus into scarlatina, the smallpox virus into smallpox. What is the conclusion that suggests itself here? It is this: That the thing which we vaguely call a virus is to all intents and purposes a *seed*; that in the whole range of chemical science you cannot point to an action which illustrates this perfect parallelism with the phenomena of life,—this demonstrated power of self-multiplication and reproduction. There is, therefore, no hypothesis to account for the phenomena but that which refers them to parasitic life.

"And here you see the bearing of the doctrine of Spontaneous Generation upon the question. For if the doctrine continues to be discredited as it has hitherto been, it will follow that the epidemics which spread havoc among us from time to time are not spontaneously generated, but that they arise from an ancestral stock whose *habitat* is the human body itself. It is not on bad air or foul drains that the attention of the physician will primarily be fixed, but upon disease-germs which no bad air or foul drains can create, but which may be pushed by foul air into virulent energy of reproduction. You may think I am treading on dangerous ground,—that I am putting forth views that may interfere with salutary practice. No such thing. If you wish to learn the impotence of medical science and practice in dealing with contagious diseases, you have only to refer to a recent Harveian Oration by Dr. Gull. Such diseases defy the physician. They must burn themselves out. And, indeed, this, though I do not specially insist upon it,

would favor the idea of their vital origin. For if the seeds of contagious disease be themselves living things, it will be difficult to destroy either them or their progeny without involving their living *habitat* in the same destruction."

CARBOLIZED ATMOSPHERE IN THE TREATMENT OF BLOOD-POISONING.—In the London *Practitioner* for January, Dr. John Wood commends very strongly a new method of using carbolic acid, and reports two cases of severe traumatic erysipelas and one of pyæmia, in which he thinks recovery was largely attributable to the method of employment. To the cradle for keeping the bedclothes off the affected part, and to various projecting portions of the bed, he hangs little muslin bags containing a powder saturated with carbolic acid. In this way he saturates the atmosphere about the patient and the wound with the vapor of carbolic acid, and produces constitutional effects without disturbing digestion. In the pyæmic case the breath and urine were very strongly impregnated with the acid, and the latter for a week had the characteristic slate-colored film and deposit. This deposit was analyzed, and found to be identical with blue indigo, and, therefore, was probably formed by a transformation of the yellow indigo of the excretion. The pyæmia followed a wound of the right hand. The case was remarkable for the complete and rapid recovery of the patient, with a stiff knee-joint, after the total necrosis and removal of the patella through a free opening for the evacuation of the pyæmic abscess of the joint.

NASO-PHARYNGEAL POLYPUS.—Mr. Cooper Forster (*Lancet*, May 20, 1871) reported the following case to the Clinical Society of London. The patient was nineteen years of age, and had a large growth filling up the left nostril, firm, fleshy, and fibrous, and covered with mucous membrane. The right nostril was not much interfered with; there was no swelling of the face or fulness of the palate, nor any projection in the throat. Chloroform was given, and a wire snare put round the growth, which broke off, and bled profusely. Mr. Forster then made a further examination, and, having passed his finger up the nostril, found an enormous growth, which could not be circumscribed, but large portions of which he tore away with forceps. Four days after the operation, the patient suddenly became unconscious. The right half of his face was numb, and, though he rallied, he was never able to speak except to say "too-too." The temperature rose to 102° F. He had three convulsive fits on the seventh day, and became totally unconscious, and died twelve days after the operation. The post-mortem examination showed general arachnitis, and sloughing of the brain about Broca's convolution. That portion of the growth which had not been removed occupied the left side of the external base of the skull, and filled the space between the greater and lesser wings of the sphenoid, the orbital plate of the frontal, and the cribriform plate of the ethmoid bone. It had extended from the nasal fossa by way of the sphenoidal fissure into the back of the orbit, but without damaging the optic nerve. The cribriform plate of the ethmoid was broken; and at the back part there was a small opening about a quarter of an inch in diameter, and a fracture extending forward from the opening. Microscopic examination showed the growth to consist of small fusiform cells and stellate connective tissue.

DETERIORATION OF MILK IN FEEDING-BOTTLES.—Prof. Gunning (*Med. Times and Gaz.*, May 6, 1871), the Government Analyst at Amsterdam, writes, "I object to the infants' feeding-bottles in all instances where any part of them is composed of caoutchouc or india-rubber, or any like material. There is nothing so ill suited to the constitution of the human body as the material in question. When, in consequence of suction, the pores of the caoutchouc are enlarged, some portion of the milk always remains behind in them, which cannot, or at least cannot without great difficulty, be removed. This milk quickly becomes bad, and spoils the fresh milk with which it comes in contact. The caoutchouc material in question is made up of several ingredients. White zinc, or white lead, is very commonly employed, which is very poisonous. My objections are not founded exclusively upon *a priori* conclusions. In this country many fatal cases have happened among infants, which on solid grounds may be ascribed to the use of these bottles."

TREATMENT OF GONORRHEA.—Mr. Berkley Hill (*Lancet*, April 29, 1871) speaks favorably of the jelly of copaiba in the treatment of the sub-acute form of this disease. This preparation is almost as firm as calf's-foot jelly, very attractive to the eye by its rosy red color, and not repulsive to the palate, its flavor being masked with peppermint. As it contains seventy-five per cent of copaiba, large quantities can be taken in small bulk. If a piece as large as a filbert be rolled in wafer paper, it can be swallowed without being tasted at all. The after-effects of nausea, diarrhea, etc. are not more frequent than from other forms of copaiba, if indeed they be as common. Mr. Hill speaks favorably of the oil of sandal-wood, but does not think it superior to copaiba. The following formula of Henderson is recommended in conditions not permitting the use of copaiba. Oil of sandal-wood, one ounce; rectified spirits of wine, two ounces; oil of cinnamon, twenty-five minimis. Dose, one or two drachms three times a day.

GUNSHOT WOUND OF THE AXILLA WITHOUT INJURY OF THE AXILLARY ARTERY.—M. Bonnafont reports in the *Comptes Rendus (Centralblatt)*, May 20, 1871) two cases of gunshot wound in which the axillary artery was uninjured, the veins and nerves being, however, very much lacerated. The immunity of the arteries is to be ascribed partly to the cellular and elastic structure of their coats, but principally to their cylindrical form.

IODIDE OF POTASSIUM AND SUBNITRATE OF BISMUTH.—In the *British Medical Journal*, Drs. Woodman and Tidy state some alarm was caused by the formation of a red precipitate in a mixture containing subnitrate of bismuth and iodide of potassium. The precipitate formed not at once, but slowly, was in cubic grains, and is said to have been a protiodide of bismuth. This iodide is extremely insoluble, and was tried by itself in doses of from five to twenty grains, but did not appear to have any therapeutic power.

ON ULCERATION OF THE FRÆNUM LINGUE IN PERTUSSIS.—Dr. MacCallas asks attention (*Glasgow Med. Jour.*, March) to the frequency with which a peculiar ulceration on or near the frenum of the tongue occurs in children suffering from hooping-cough. Thus, in two hundred and fifty-two children suffering from pertussis, it was found to exist in one hundred and eleven, or about forty-four per cent. The affection varied in degree from a mere abrasion—often of a whitish appearance, which usually formed its first stage—to a deep fissure with a gray or yellowish surface, and often bleeding during or after a paroxysm. In some cases it began as a vesicle instead of an abrasion. In the great majority of cases (*i.e.* in 105 out of the 111) it was situated on the front of the frenum, and its presence in another situation was usually associated with some irregularity of the teeth. The affection generally appears some time during the second week. Dr. M. is disposed to think that it is due to mechanical causes, and is not, as has been maintained by some, a specific eruption; and this view is borne out by the fact that it never appears before dentition. He is inclined to attribute to its presence diagnostic importance, as he has never found it in other diseases than pertussis.

A BULLET REMAINS IN THE BRAIN NINETEEN AND A HALF YEARS.—The *Journal of Psychological Medicine*, July, 1871, contains the following, which is taken originally from an Italian journal:

"Joseph Soler, a lawyer in Venice, was shot in a duel, June 16, 1850. The ball entered the head above the right ear. Prof. Cortesi saw the wound five hours afterwards. The patient was bled, and cold water was applied to the wound. On the 31st of August he was deemed convalescent. For a considerable time his memory was weak, and vision was somewhat disturbed. In time, however, these two disturbances disappeared; his mind became as clear and his judgment as good as ever. He now complained of nothing but a painful sensation in the back and in the lower extremities, especially in the right, which became more acute when he coughed, sneezed, etc., and extended to the head. He died of pneumonia, December 7, 1869. The autopsy displayed a funnel-shaped cicatrix above the right ear, and a notable thickening of the skull. On the petrous portion of the temporal bone, and on the border of the tentorium, a dark body

was found, which consisted of two pieces of lead, separated from each other by a splinter of bone. On raising the cerebellum, the finger could be thrust into a canal, which was in the brain-substance. At the end of this canal, which was ten centimetres in length and ran horizontally, another rough body was found, which proved to be a piece of bone two centimetres in length."

SESQUICHLORIDE OF IRON AND GLYCERINE IN DIPHTHERIA AND CROUPOUS AFFECTIONS.—Prof. Clar (*Practitioner*, July 1, 1871, from the *Wien. Medizin. Zeitung*, No. 19, 1871), having experienced the advantages from the application of the best anhydrous glycerine (of Sarg) in various catarrhal and slight croupous and diphtheritic affections, met with some of a much more severe type, which led him to add the sesquichloride of iron to the glycerine with excellent results. The method of treatment he adopts, varying of course with individual peculiarities, is the following: He first prescribes a gentle aperient, either in the form of a manna draught, or of a few grains of calomel, which last he holds to be a powerful antiphlogistic remedy, and, when properly used, of great value. Coincidentally he directs cold compresses or cloths to the neck and head, or even to the chest, carefully renovated in accordance with the elevation or depression of the temperature, cold or iced water being at the same time given as a drink; and then commences at once the use of iron-glycerine, which consists of two ounces of anhydrous glycerine and twenty drops of the liquor ferri sesquichloridi. Of this mixture half a teaspoonful is to be given every half-hour throughout the day and night. As soon as the symptoms appear to be mitigated, the quantity is diminished to a teaspoonful every second hour; and in the intermediate period, with the object of dissolving the exudate, a mixture composed of glycerine, two ounces, borax, twenty grains, is similarly given by a teaspoonful at a time. The iron-glycerine is progressively given at longer periods, and is gradually replaced by the borax-glycerine.

LARDACEOUS DISEASE.—A committee of the Pathological Society of London (*Lancet*, May 20, 1871) has reported to that society that the affected organs in lardaceous disease are greatly deficient in salts of potash, while they contain an increase of chloride of sodium and cholesterine. The formation was shown to be nitrogenous, and to have a relationship to a solution of fibrin in hydrochloric acid. This report confirms some observations of Dr. Dickinson, which were published in the *Transactions of the Medico-Chirurgical Society*. The committee prefer the name lardaceous disease to any other which has been proposed for this affection.

TRANSVERSE STRIATION OF MUSCLE.—In *The Academy*, vol. i, pp. 76 and 156, is contained an account of the structure of striate muscle, by M. Hensen, and a critique upon his views, by M. Krause. In the number of that journal for April 15 of this year M. Krause is again quoted from *Zeitschrift für Biologie*, Band vi., Heft 4, where he maintains that Hensen has confused three separate and distinct things under the name "median disk": 1. The true transverse lines as seen with accurate focusing in the invertebrata. 2. In the higher vertebrata, with accurate focusing and oblique illumination, he has mistaken for the true transverse lines the shadow thrown by the border of the anisotropal substance. 3. In the lower vertebrata, with too high focusing, he has mistaken for transverse lines the dark line which is the expression of the high refractive power of the anisotropal substance.

SPONTANEOUS INVERSION OF UTERUS.—Dr. J. H. Tylecote (*Brit. Med. Jour.*, January 28, 1871, p. 84) reports that a young married woman was delivered by a physician of her first child. The labor was natural, but followed by profuse atonic hemorrhage. Twenty-four hours after, he was sent for, and found that a complete inversion of the uterus had followed a sudden accession of powerful expulsive pains. There was no hemorrhage, but the patient was prostrated, anæmic from previous loss of blood, and had a rapid, feeble pulse. Chloroform was given, the inverted uterus grasped with the right hand, introduced within the vagina, and pushed upwards until the vagina was put on the stretch. The reduction took place without any perceptible jerk, and the patient made a good recovery.

## MISCELLANY.

PRIZES ANNOUNCED. *Fiske Medical Prize Questions.*—The Trustees of the Fiske Fund, consisting ex officio of G. L. Collins, M.D., President, Lloyd Morton, M.D., first Vice-President, and F. H. Peckham, M.D., second Vice-President of the Rhode Island Medical Society, propose the following subjects for 1872:

1. Hydrate of Chloral: its Physiological Effect and Therapeutic Uses.

2. Condurango: its History and Medical Properties.

To the author of a dissertation considered worthy of a prize, upon the first subject, they offer \$100, and upon the second, \$200.

A competitor for either of these prizes must forward to S. Aug. Arnold, M.D., Providence, R.I., on or before the first day of May, 1872, free of expense and in a legible handwriting, a copy of his dissertation, with a device or motto thereupon, and also accompanying it a sealed packet, having the same device or motto inscribed upon the outside, and his name and place of residence within.

Previous to receiving the premium awarded, the author of the successful dissertation must transfer to the trustees all his right, title, and interest in the same, for the use, benefit, and behoof of the Fiske fund. The usual regulations are in force in regard to the return of unsuccessful dissertations to the author without the discovery of his name.

*Harvard University. Boylston Medical Prize Questions.*

The Boylston Medical Committee, appointed by the President and Fellows of Harvard University, announce that the following questions are proposed for 1872:

1. The Pathology of the Malignant and Semi-Malignant Growths.

The author of a dissertation on this subject, considered worthy of a prize, will be entitled to a premium of \$200.

2. The Pathology and Treatment of Sunstroke.

The author of a dissertation on this subject, considered worthy of a prize, will be entitled to a premium of \$150.

Dissertations on these subjects must be transmitted, postpaid, to John Jeffries, M.D., Boston, on or before the first Wednesday in April, 1872.

The following questions are proposed for 1873:

1. Electro-therapeutics.

2. The Value of Chemistry to the Medical Practitioner.

The author of a dissertation considered worthy of a prize on either of the subjects proposed for 1873, will be entitled to a premium of \$150.

Dissertations on these subjects must be transmitted as above, on or before the first Wednesday in April, 1873.

Further information may be obtained from the Secretary, or from a more detailed advertisement in the *Boston Medical and Surgical Journal* of June 15, 1871.

*Warren Triennial Prize.*—The next Warren Prize will be awarded for the best Essay, considered worthy of a prize, on the subject of "Experimental Researches on the Elimination of Drugs by the Mammary Glands."

Each Essay should be accompanied with a sealed envelope containing the author's name and address, and be transmitted to Benjamin S. Shaw, M.D., Resident Physician, Massachusetts General Hospital, on or before January 1, 1874.

*THE RECENT BOILER-EXPLOSION AT NEW YORK.*—The examination into the cause of this accident has proceeded

sufficiently far to show that the boiler of the steamer Westfield was unfit for use, and that the accident was therefore the result of negligence. Present legal enactments having proved ineffectual in preventing such indifference, we question whether any additional legislation will be so effectual as that suggested by a select committee of the House of Commons, recently appointed to consider this same subject. We learn from the London *Lancet* for July 8, 1871, that the committee, believing that the great majority of explosions arise from negligence, recommend that full responsibility for personal damages shall in every case rest upon the owner, and shall only be rebutted by proof that the accident arose from causes beyond his control. We believe, with the *Lancet*, that there can be little doubt that such a liability would strike at the root of the parsimony which lies at the bottom of these explosions, and which is the real cause, therefore, of the loss of so many valuable lives in these instances.

*THE MORDAUNT CASE.*—The unhappy Lady Mordaunt, after having resided for some months in a private insane asylum, has finally been discharged from legal custody, and has been reported as a case of feigned insanity to the Commissioners of Lunacy. She has been removed to the custody of her father, Sir Thomas Moncrief, while Sir Charles Mordaunt, it is said, will reinstitute proceedings for obtaining a divorce.

*GEOGRAPHICAL MAP OF MATERIA MEDICA.*—M. Leon Soubeiran has drawn up such a map, the medicinal substances being marked on the very geographical spots whence they are obtained. Below the map an alphabetical index of the substances gives the corresponding countries. The London *Lancet* of July 8, from which we derive this piece of information, says that M. Soubeiran took the idea from Mr. George Barber, of Liverpool, but has produced, according to M. Chatin, the reporter to the Academy of Medicine, a much more important work. These maps have only been drawn up; it is hoped that they will be engraved, as they will certainly prove useful aids to the memory.

*THE PRODUCTION OF OPIUM IN TENNESSEE.*—We learn from the *Nashville Union* that the poppy-plant has been successfully cultivated in the interior of the State of Tennessee, and that a great deal of interest in the subject of its cultivation has been manifested, not only by scientific men, but also by the general public. It is believed that the climate of Tennessee is well suited for the growth of the plant, and up to this time the yield of opium has been large, one gentleman obtaining as much as from thirty to fifty pounds per acre. One laborer can easily cultivate four acres.

*HONORS AND APPOINTMENTS.*—Dr. Frerichs, of Berlin, well known through his great work on the Liver, has had conferred upon him the order of the Iron Crown.

Dr. Silver has been appointed to succeed Dr. Hyde Salter, of Charing Cross Hospital, London, that gentleman having resigned on account of ill health.

Mr. James Paget, F.R.S., having resigned his position of Senior Consulting Surgeon to St. Bartholomew's Hospital, has been appointed Honorary Consulting Surgeon. The resolution embodying an expression of sincere regret on the part of the General Court of Governors, at his resignation, was written upon vellum, magnificently framed, and bore the signature of the Prince of Wales as President of the Hospital, in the presence of whom and the Princess of Wales, the

Marquis of Lorne, and Princess Louise, the presentation was made.

Dr. F. T. Roberts has been appointed Assistant Teacher of Clinical Medicine at University College Hospital, London, and Mr. Berkley Hill and Mr. Christopher Heath have been promoted from the office of Assistant Surgeon to that of Surgeon.

**MORTALITY AMONG GERMAN MILITARY SURGEONS.**—An official report (*Med. Times and Gaz.*, July 1, 1871) states the German loss of military surgeons to have been 101,—viz., 72 killed in battle, 25 died of disease, and the rest by accidents. The loss is considered very slight when compared with other campaigns, especially in the Crimean war.

**MR. GROTE, THE HISTORIAN.**—At his request (*Med. Times and Gaz.*, July 8, 1871) the skull of the late Mr. Grote has been opened by Mr. Marshall, who has taken a cast of the brain. The President's Chair at University College, vacant by the death of Mr. Grote, is to be filled by Lord Belper.

The historian also bequeathed his valuable library to the London University.

**KING'S COLLEGE, LONDON.**—The donations at the recent annual dinner at King's College amounted to £4500, or more than \$22,500.

**THE FEMALE STUDENTS AT EDINBURGH.**—The female aspirants for medical honors appear to be as irrepressible at Edinburgh as here. Led on by that redoubtable lady with the unharmonious name, Miss Jex Blake, they have again been knocking at the door of the University and demanding further privileges. It appears, according to the *Lancet*, that some of the professors are not prepared to deliver second courses of lectures for the ladies' benefit, while the University regulations do not admit of the ladies attending more than four classes at the extra-academical school. Miss Jex Blake accordingly suggests that the Senatus might appoint special lecturers in cases where the ordinary lecturer declines to give a second course, and that the expenses of such appointment should be defrayed by the ladies themselves, or, failing that arrangement, that the extra-academical course should be allowed to qualify for graduation beyond the four classes already allowed for that purpose by the University. As the *Lancet* admits, the proposal seems quite a reasonable one, and if the Senatus should reject it, that body will certainly be in the scarcely consistent position of having first allowed Miss Jex Blake and her sisterhood to matriculate as cives of the University, to enrol themselves as students, to prosecute their studies with a view to graduation, and then having turned round and barred their progress half-way.

Apropos of the above, the English medical journals for July 22 announce that on July 18 the Lecturers at Surgeons' Hall, Edinburgh, resolved, by a majority, to rescind the resolution adopted last year, permitting lectures to be delivered to female as well as male students. The lecturers are therefore prohibited from giving instruction to female students.

**MYSTERY SOLVED.**—Many of our readers will remember the young woman afflicted by the companionship of a snake, which played bo-peep from her throat. Although "plainly seen" by several of our physicians, who lay in wait for the reptile, forceps in hand, it always escaped capture. The following slip, taken from the *Tribune*, solves the mystery, and at the same time suggests a new anthelmintic, which, we feel assured, will always expel such parasites:

"Annie Brown for years excited rural communities by exhibiting an unusual cause of affliction, and has been given over by many doctors as one beyond cure. She has apparently been troubled with a snake which, at intervals, thrust its head out of her mouth and instantly retreated down her throat. A suspicious physician in Wayne County Infirmary prepared for sharp work the other morning, and, when the snake appeared, seized the poor woman by the neck, so that the reptile might not retreat. Lo, when disengaged, nothing more formidable than an india-rubber imitation of a snake came forth, and now Annie's occupation is gone."

**MORTALITY OF PHILADELPHIA.**—The following reports are condensed from the records at the Health Office:

	For the week ending		
	July 22.	July 29.	Aug. 5.
Abscess	0	1	0
Consumption	44	44	40
Other Diseases of Respiratory Organs	12	23	14
Diseases of Organs of Circulation	13	20	12
Diseases of Brain and Nervous System	63	50	77
Diseases of Abdominal Organs	140	116	87
Gunshot Wound	0	1	0
Fracture of Skull	0	0	1
Zymotic Diseases	22	19	12
Debility	28	31	26
Intemperance	0	0	1
Casualties	17	5	4
Cancer	4	6	3
Gangrene	0	1	2
Sunstroke	2	2	0
Marasmus	25	26	24
Malformation	0	2	0
Old Age	11	12	10
Poisoning	0	2	0
Stillborn	22	17	10
Scrofula	0	2	2
Puerperal Convulsions	0	0	2
Suicide	0	2	1
Syphilis	1	0	0
Tetanus	1	0	3
Drowned	0	3	5
Unclassifiable	15	11	12
Unknown	1	0	0
Totals	421	396	348
Adults	132	146	128
Minors	289	250	220

#### OFFICIAL LIST

**OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 19, 1871, TO AUGUST 4, 1871, INCLUSIVE.**

**MILLER, GEO. MCC., ASSISTANT-SURGEON.**—By S. O. 154, Headquarters Department of the South, July 20, 1871, to proceed with command from Montgomery, Ala., to Atlanta, Ga., and report thence by letter to these Headquarters.

**CRONKHITE, HENRY M., ASSISTANT-SURGEON.**—By S. O. 278, c. s., War Department, A. G. O., relieved from duty in Department of Texas, to proceed to New York City, and, upon arrival there, report by letter to the Surgeon-General.

**POPE, B. F., ASSISTANT-SURGEON.**—By S. O. 293, War Department, A. G. O., July 29, 1871, to report to the Commanding-General Department of the South for assignment to duty.

**WILSON, WM. J., ASSISTANT-SURGEON.**—By S. O. 278, War Department, A. G. O., July 18, 1871, relieved from duty in Department of Texas, to proceed to New York City, and, upon arrival there, report by letter to the Surgeon-General.

**HALL, JOHN D., ASSISTANT-SURGEON.**—By S. O. 187, Headquarters Department of Dakota, July 14, 1871, upon being relieved by A. A. Surg. McChesney at Cheyenne Agency, D. T., to proceed to Fort Shaw, M. T., for duty as Post-Surgeon.

**HARVEY, P. F., ASSISTANT-SURGEON.**—By S. O. 144, Headquarters Department of Texas, July 14, 1871, assigned to duty as Post-Surgeon at Fort Quitman, Texas; and by S. O. 145, c. s., Department of Texas, granted leave of absence for thirty days, with permission to leave the limits of the department.